California Carpet Stewardship Plan

2018–2022

December 2018

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Submitted to:
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CARE wishes to thank the following people and organizations for their contributions during the development of this Plan:

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Chapter 0 (new)

This “Chapter 0” has been created at the direction of CalRecycle to explicitly address all conditions outlined in CalRecycle’s October 16, 2018, Request for Approval document (RFA) conditionally approving this CARE Carpet Stewardship Plan. Each condition of the RFA is reproduced below in its original format and highlighted in gray for easy reference. CARE responses immediately follow each item and are italicized. This Chapter 0 also incorporates responses to Advisory Committee recommendations resulting from their November 27th meeting.

Concepts addressed in this Chapter 0 are discussed in further detail throughout the Plan. In the event of any conflict between the information contained in Chapter 0 and the remainder of the Plan, Chapter 0 will control. By agreement with CalRecycle, Chapter 0 has been inserted in the front of the Plan for easy access and to simplify the resubmission process. All page numbers for this new chapter are proceeded by a “0” to signify Chapter 0. The Table of Contents, page numbers, and references remain unchanged in the original Plan as submitted on August 17, 2018.

At CalRecycle’s request, a revised version of Attachment 9 has been inserted in this version of the 5-Year Plan. The basic content of Attachment 9 has not changed. However, at the request of CalRecycle more detailed explanations of the models were added for clarity. Essentially Attachment 9 was updated to provide further descriptive narrative about the Economic Model, Financial Model, and Conversion Cost Model. Additionally, included in Attachment 9B, under the description of the economic model, two screenshot examples have been provided, which show a summary view of all 5 years of the Plan as well as a more detailed example view for the last three months of 2019 and year-end.

I. Include commitments to accomplish all of the following and describe how it will fulfill these commitments by 9/1/19

a. Conduct and provide to CalRecycle an independent, detailed economic analysis to validate the Subsidy Justification and Conversion Cost Models that justifies the assessment based on actual costs of program participants, (and provide an aggregated version of the analysis to be included into the Plan). This must include a summary of the
range of costs for collecting, processing, and recycling different materials, along with other programmatic expenditures, that is sufficient to estimate how much overall funding and therefore what assessment level is needed to achieve the goal of a 24 percent recycling rate by January 1, 2020 and 26 percent by 2022; and

CARE has actively engaged a number of knowledgeable stakeholders in the development of the existing models, which continue to evolve. CARE created a Modeling Team to focus on this ongoing work. As stated in the Plan, these models are complex and require an intimate working knowledge in order to understand their use and output. Ongoing efforts continue on the refinement of the models, which have been discussed with CalRecycle on several occasions.

As part of our ongoing efforts to develop these complex models, CARE will hire an independent firm to conduct an analysis of CARE’s Conversion Cost Model (CCM) and Subsidy Justification Model (SJM) to validate accuracy including the costs of collecting/sorting, processing, and recycling post-consumer carpet (PCC). A statistical analysis will be included as part of the independent work. Finally, the independent firm will evaluate the sufficiency of the assessment to meet or exceed the 2020 24% recycling goal. By the time this analysis is complete and submitted, it likely will be unable to inform an analysis of the sufficiency of the assessment to meet or exceed the 2020 24% recycling goal. However, the analysis will help guide CARE’s decision-making about assessment-setting for 2020 and beyond.

CARE will work with CalRecycle during the analysis process to provide a sufficient level of detail while protecting the confidential business information of the recycling community participants. The firm will be selected via a Request for Proposals (RFP) process to be completed by the end of Q1 2019, with a report delivered to CalRecycle no later than September 1, 2019. The RFP will include a specific call-out for conflicts of interest and the protection of all confidential business information (CBI) provided by the recycling community. Finally, CARE will formalize its existing internal controls for handling CBI.

As discussed with CalRecycle, it is important to recognize no two post-consumer carpet recycling processing or
manufacturing operations are alike. Variations are dramatic due to fundamentally different approaches to disassembly/deconstruction, purity requirements of market outlets targeted, and the myriad of product applications. The unique market dynamics, complexity, and variability of post-consumer carpet recycling versus other products, as well as the continuing emergence of new products and recycling processes, mean that recycling costs necessarily will remain non-uniform and dynamic. CARE’s economic analyses will continue to utilize the best information available, both commercially and via recycler feedback. CARE will work to include a description of the range of costs for collecting, sorting, processing and other program expenditure costs while balancing CBI considerations.

Once these additional analyses are completed, CARE will share this information with CalRecycle and CARE will incorporate the modified information into its Plan as appropriate.

b. Update the Subsidy Justification Model and the Conversion Cost Model by 9/1/19, and every six months thereafter; review changes to the models with CalRecycle staff, and present recommended changes to subsidies to CalRecycle for approval; and

CARE commits to update the CCM and SJM by September 1, 2019, and semiannually thereafter; review any recommended changes to the models with CalRecycle; and present any recommended changes to subsidies to CalRecycle for approval. Any such updates will take into account the information in Item I.a above.

c. Demonstrate CARE’s Subsidy Justification and Conversion Cost Models use California-specific data and account for regional cost differences. A commitment to demonstrate to what extent its economic analysis accounts for regional differences in cost data (by 9/1/19)

During analysis of the SJM and CCM, CARE will look at California versus non-California costs along with regional costs within the state. This review will be sensitive to protection of confidential business information. Consideration of any program recommendations for model or Plan adjustments based on regional differences within the state will be discussed with CalRecycle beginning in Q4 2019 and implemented as appropriate and agreed to by CalRecycle and CARE. At the
same time, it is important to recognize that every processing and manufacturing operation is unique.

II. With respect to convenience, CARE must include its commitments to accomplish all of the following and describe how it will fulfill these commitments by September 1, 2019:

a. Submit modifications to its convenience goals that are consistent with the results of the convenience study to CalRecycle; and

Upon completion of the Convenient Collection Study, CARE will review the Study and share its results with the Carpet Stewardship Program Advisory Committee and CalRecycle staff. CARE will use the Convenient Collection Study as a guide in setting any revised goals for increasing convenience and evaluate the strategic options available based on the Study and existing information. By September 1, 2019, CARE will submit to CalRecycle all proposed revisions, consistent with the Convenient Collections Study, to the Plan’s convenience goal.

CARE’s approach to siting facilities generally involves the following approach:

- Local government owned/operated solid waste/recycling facilities.
- Privately owned/operated solid waste/recycling facilities.
- In rural areas, for which there is no space, interest, or willingness to site a CARE drop-off site, work with local independent recyclers, carpet distribution centers, or carpet retailers. Any carpet retailer site hosting a CARE collection container is required to be willing to accept carpet from the public.

Additionally, CARE recently released a rural counties incentive program of $3,600 per site to help offset the initial increased staffing costs related to setting up, fine-tuning, and implementing a new program. Thus far, response to this incentive program has been well received.

CARE maintains that the private collection network is a critical component in evaluating the convenience of carpet collection. While the convenience of that type of collection may be exclusive to the larger carpet retailers and their installers, it is believed to be capturing a significant portion of residential-grade carpet tear-outs. And, CARE is currently strategizing with
local haulers and Collector Sorter Entrepreneurs (CSEs) in designated focus areas for expanded carpet capture opportunities with medium-sized to smaller retailers and installer groups.

One goal of the current Convenience Study is to obtain a better understanding of the professional installation versus do-it-yourself (DIY)/Contractor volume. Such information is intended to help guide efficient and cost-effective convenient collections. Success of collection expansion requires a parallel and coordinated effort to grow the outlets for PCC, defined as products containing PCC along with markets to buy those products; both private and public-sector commitments will be critical. Efforts in this area are detailed in the Plan.

Recognizing the unique challenges associated with commercial broadloom (low yield/yd2, adhesives, tile and/or asbestos rip up contamination, loop construction, and adverse production efficiencies) CARE will create a workgroup beginning January 2020 to address unique challenges regarding commercial broadloom collections, including options for segregation from C&D waste. The workgroup will explore how changes in local and state C&D diversion goals could increase commercial broadloom collections. Upon completion of the study, anticipated by end 2020, a report will be issued with recommendations for implementation.

b. Complete audits of participating collector/sorters to ensure compliance with the revised AUPs that support convenient collection (see below – refers to page 9 of original CalRecycle RFA).

CARE will work with Aprio to refine and enhance CSE-related Agreed Upon Procedures (AUPs) to further strengthen analysis to ensure compliance, support of convenient collection as informed by the Convenient Collection study and help prevent fraud. Upon completion of the Convenient Collection Study, CARE will engage the CSE community to clarify their role in support of convenient collections.

There are currently six California-based CSEs registered with and eligible for subsidies through CARE. Once the revised AUPs are developed, and with appropriate notification to CSEs, CARE will complete audits of the CSEs by September 1, 2019, and on the normal rotating basis thereafter. Details of audit
selection and frequency will be included in the revised AUP protocol but is considered confidential to further aid AUP effectiveness.

III. With respect to incentivizing markets for products made from postconsumer carpet, CARE must include its commitment to accomplish the following and describe how it will fulfill this commitment by September 1, 2019:

a. Establish a minimum weight of postconsumer carpet content a product must contain, on an annual basis, to be considered as a product made from postconsumer carpet.

CARE will work with existing and new manufacturers of products made from PCC to establish an agreed-upon minimum weight of PCC that a product must contain and total content on an annual basis, to be considered as a product made from postconsumer carpet and thus eligible for subsidies. CARE will survey manufacturers to solicit threshold commitments for use of PCC to estimate consumption. CARE will present the proposed standard to CalRecycle for review on or before September 1, 2019. CARE then will issue guidelines and establish AUP protocols for verification and tracking for implementation on or before January 1, 2020.

IV. With respect to source reduction, CARE must include its commitment to accomplish the following and describe how it will fulfill this commitment by September 1, 2019:

a. Develop AUPs for reuse. The AUPs must describe the documentation, processes, and procedures that must be kept and followed by reuse incentive recipients. The AUPs should also ensure that expansion of the reuse market is not adversely impacted by reused carpet not meeting the performance expectations.

CARE will work with Aprio and solicit input from CSEs to develop and revise AUPs specifically as they pertain to carpet reuse for both tile and broadloom. The AUPs will include a provision specifically on performance standards and expectations for reuse. CARE will issue a Reuse Guideline, to include a discussion of performance expectations for reused PCC, no later than September 1, 2019. CARE will review the revised AUP procedures with CalRecycle before being finalized and submitted to CalRecycle by September 1, 2019.
V. CARE must also complete and include all of the following:

a. Expanded and implementable collection procedures in CARE’s AUPs for collector/sorters to support Program convenience, including but not limited to, requirements that all carpet types must be accepted and carpet is transported to a processor participating in CARE’s Program and not directly to a landfill;

CARE will issue an outline of the collection protocol used by CSEs to facilitate a better understanding by CalRecycle. The protocol will explicitly state all polymer face fiber types must be accepted and sorted. Marketable (i.e., fit to be offered for sale in a market and wanted by purchasers) PCC will be sold and shipped to a processor for recycling or may be placed in inventory for future sale. Any PCC or other materials received that are not marketable and/or are waste material (small PCC pieces, contaminated PCC, or non-carpet materials) may be sent to a landfill. An outline of the current material flows is included below (Figure 0-1). A more detailed description of the AUP is included at the end of this Chapter 0 and a revised detailed AUP protocol will be issued by June 30, 2019.

Any PCC collected at a CARE public drop-off site will be sent directly to a CSE for sorting by fiber type, marketing, and/or disposition. In rare instances, CARE is aware that whole loads may have been diverted due to severe contamination/infestation, and this would certainly be an exception. CARE will include such exception reporting in future AUPs.

All PCC flows handled by CARE drop-off sites or private collection networks are reported monthly in detail and subject to AUP reviews. In no routine case would a load of PCC be routed directly to a landfill; rather, it would be routed to a CSE for further sortation and disposition. Any exceptions, as noted above, would require documentation.

The following table summarizes PCC flows across CSEs, Processors, and Manufacturers:
b. A proposed timeline for auditing collector/sorters to ensure compliance with the revised AUPs; and

As outlined above, once revised AUPs are issued, CSE audits will be completed no later than September 1, 2019 and periodically thereafter.

c. Clarifications and corrections to the revised Plan as specified in CalRecycle Attachment 5. [See attachment for 10 items for clarification & correction in the Plan. Added to the end of Chapter 0 on the following pages.]

All items specified in CalRecycle Attachment 5 have been addressed in Plan version dated December 2018. Please see item #4 below for a direct response.
VI. CalRecycle Attachment 5 – Corrections

All corrections listed in CalRecycle’s Attachment 5 of the RFA have been completed or addressed and are included in the revised Plan. Attachment 5 is reproduced below for reference.


1. Page 10 states “During this period should any updates be required, they will be made through an Addendum process with CalRecycle.” This sentence must be removed, as a carpet stewardship plan cannot dictate department processes.

2. Paragraph that begins at the bottom of page 64 and ends at the top of page 65 discusses recycling of PC4 as source reduction. Recycling is not source reduction, so this paragraph should be removed. Similarly, discussion of “education and outreach to installers” on page 66 to facilitate recycling is not source reduction and should be removed or clarified how this is, in fact, source reduction.

3. Table 7. Subsidy Justification Model on page 123 states that the formula used to determine the values in column J are derived using the formula J - H. Please correct the formula to I - H. In column I, the header should refer to Table 8 rather than Table 9, and the row addressing PET fiber, should be corrected to indicate the subsidy is $0.10.

4. Table 8. Subsidies for Processing Residential and Commercial Broadloom on page 125 lists subsidies for residential and commercial broadloom carpets. Although nylon 66 and nylon 6 commercial broadloom did not score highly for highest recyclability in table 6 on page 116, it appears that those materials are eligible to receive the highest recyclability incentive of $0.05 per pound. Please add a brief explanation to clarify why. CARE RESPONSE: While commercial broadloom scored lower on the HR index, CARE notes HR is primarily driven by polymer type and market desirability. Since there is a desire to facilitate commercial broadloom recycling, and the preponderance of commercial broadloom is nylon, the HR incentive was also applied to this construction type. This subsidy is
considered as an incentive to further drive growth in the recycling market for this important product category.

5. Page 150 shows a pie graph titled “Output Impact of Lbs. Funded-2A Capital.” Next to the graph says, “Hatched area = HR 68%,” however there is no hatched area shown and the addition of HR sections does not appear to add up to 68%. Please correct graph to show which areas should be hatched and ensure calculations are accurate.

6. Page 151 next to the pie graph titled “Original Grant $ - Cycle 2B Funded” says “Hatched area = HR 28%, however there does not appear to be any hatched area on the graph. Please correct the graph to show which areas should be hatched.

7. Page 171 states that “the assessment has climbed from $0.15 per square yard to $0.25 per square yard,” although the assessment was never at $0.15.

8. Page 178 discusses “Elements B and C, above in this list…,” as well as “element E.” Please clarify to what “elements” CARE is referring.

9. The incorrect subsidy amounts for Non-Nylon Tier 2 PET/PTT are used in row 52 of Table 13 and on pages 196 and 278. Please correct subsidy levels to $0.23, $0.22, and $0.21.

10. On September 24, 2018, CARE submitted an updated Attachment 9 to CalRecycle. Please include the updated Attachment 9 in the corrected Plan.
Revised Agreed Upon Procedures (AUPs) for Collector/Sorters (CSEs)

Program Requirements

- All CSEs must sign and maintain a current contract with CARE.
- CSEs must accept all types of PCC at their facilities.
- Tracking logs must be maintained on all inbound and outbound shipments.
- Loads of PCC must be sorted at the CSE's facility prior to disposition of materials (including reuse).
- Loads of PCC may not be sent directly to the landfill or WtE prior to sorting at CSE facility.
  - Exceptions: if a load can be shown to be infested or contaminated to a degree it endangers the CSE facility or its workers or if a load is wet and cannot be handled.
  - Such exceptions should be documented and where feasible include photographs.
  - Exceptions should be reported to CARE within the current monthly reporting cycle.

General Procedures

a. Obtain the Request for Payment submitted by the Company from CARE.

b. Verify the Request for Payment was signed by an Officer of the business.

c. Confirm with CARE representatives that the Request for Payment and supporting schedules were submitted prior to submission deadline.

d. Confirm with CARE representatives the Company is a member of CARE in good standing.

e. Confirm documentation in place in support of Requests for Payment on record with the collector identified to ensure compliance with the three-year documentation retention period requirement.

f. Inquire of the Company regarding any reported significant deficiencies or material weaknesses reported by the Company’s independent accountant.

g. Perform a site visit and observe the Company's operations corroborating inquiry responses provided by CSE to observations.
Collection Procedures

h. Document the Company’s policy for tracking collections and weighing inbound material, if applicable.

i. Inquire as to whether the Company collects PCC from any states outside of California.

Outgoing Shipments

j. Document the Company’s method for calculating outbound PCC eligible for funding. Determine if the Company’s method for calculating outbound shipments is consistently applied as a basis for reporting to CARE. Recalculate the Company’s shipped output eligible for funding.

k. Select a sample of sales invoices from the Company invoice register to verify the shipments of California based PCC during the quarter. For each of the selected invoices, obtain a copy of the corresponding invoice and signed bill of lading.

l. Confirm a sample of the sorted output during the quarter directly with selected customers.

m. Inquire as to whether there were any transactions with related parties.

Reporting Procedures

n. Recalculate and test the mathematical accuracy of the requests for payment.

o. Report exceptions noted to CARE.
Executive Summary

Pursuant to the requirements of AB 2398 and now AB 1158 adopted in 2017, (collectively referred to herein as “Carpet Stewardship Laws”), Carpet America Recovery Effort (CARE), on behalf of the manufacturers of carpet sold in the State of California (Carpet Mills), submits this carpet stewardship Plan to CalRecycle, per Public Resource Code (PRC), Section 42972. CARE, as the designated stewardship organization of the Carpet Mills selling carpet into California, respectfully requests CalRecycle’s approval of this Plan. This Plan fully meets the requirements of Sections 42972 and of 42973 as it will “not have the effect of reducing the level of diversion, recycling of post-consumer carpet that has been achieved pursuant to this chapter at the time the department reviews the plan and the amount of the assessment in the plan will not create an unfair advantage in the marketplace for one or more of the companies in the organization.”

This proposed plan has been substantially revised, upgraded, and improved since the CARE submission on March 16, 2018.

Results show that the current Plan is having a positive impact with a 27% increase in the recycling rate over 2016 and almost 100% increase since Q3 2015. Because of the passage of AB 1158, which first became effective only on January 1, 2018, and based on our unique experience and expertise, CARE has strategically revised this Plan to further accelerate growth of the carpet recycling industry with a focus on building California capacity.

The proposed plan takes into account the global polymer supply chain that is complex, sophisticated, unregulated, and intensely competitive. There are multiple competitive sources of these materials, including virgin, post-industrial, pre-consumer, and post-consumer polymer from dozens of industries representing hundreds of products. Unlike other industries, the carpet recycling industry is immature and operates via a small number of players. Technology platforms vary widely in terms of quality, purity, volume availability, and reliability. CARE has used its expert ability to analyze the costs associated with such a small base of tightly held information.

Development of the Conversion Cost Model and the Subsidy Justification Model has helped that understanding, but it is not the sole determinant and CARE has also analyzed and considered market feedback and used its
considerable expertise and experience in setting subsidies. At the same
time, experience has shown we cannot anticipate all developments, positive
or negative. This Plan utilizes the original budget for 2018 and a new 2019
budget while forecasting 2020 through 2022. Budgets will be reviewed and
reset annually after consultation with CalRecycle and the Advisory
Committee.

This detailed and comprehensive plan includes the factual elements that
govern our ability as a small enterprise to develop the markets for recycled
carpet materials, and to influence the overall markets for recycled polymeric
materials that provide the context for carpet recycling. An outline of factors
impacting carpet recycling is in the 2016 CARE Annual Report to CalRecycle
and is incorporated by reference (2.2 Industry Landscape). Such factors
include but are not limited to: the price of oil and natural gas, loss of a
significant volume processor in 2017, a major equipment failure in 2017, and
China’s National Sword Program, as acknowledged by CalRecycle in the
Director’s letter of May 8, 2018 (incorporated by reference).

The State has seen firsthand these same headwinds manifested in the
variance of recycling rates in 2015 and 2016. We now know that virgin resin
prices in general fell 40% between the fourth quarter of 2014 and early
2016.\(^1\) Furthermore, California is not alone in the impact it is seeing in
recycling. The EPA recently issued its 2015 U.S. findings on Recycling and
Diversion results indicating the entire US recycling industry has been
stagnant since 2010 with the pressures of 2016 and 2017 being even worse,
in part due to China’s National Sword.\(^2\) The carpet recycling industry faces
these challenges on many fronts.

CARE deeply appreciates the close dialog with CalRecycle staff during the
development of this Plan. We will continue to collaborate on our path forward
to success as we work to evolve and enhance implementation of this Plan.
As stated earlier, the current Plan is working, and the enhancements
contained herein will further enhance efforts to build California infrastructure
and we are confident we can meet or exceed the 24% recycling rate goal.

Among the many high-level changes to this Plan, CARE has increased
funding for grants, added funds for technical assistance, added new
subsides, discontinued subsidies for Carpet As Alterative Fuel (CAAF) and


\(^2\) *Resource Recycling*, July 30, 2018, "National statistics show stagnant U.S.
diversion rate."
Kiln, and has hired additional staff and/or contractors, including a new fulltime California Program Director. This Plan also funds a reduction in disposal and increased recycling rate over the period 2018-2022. And, it addresses the legitimate concerns of increasing assessments and the continuing dramatic decrease in sales of new carpet over the last 5 years, sales that are critical to fund the carpet stewardship program itself.

Finally, this Plan fully incorporates all new requirements of AB 1158 that will affect the design and implementation of the California Carpet Stewardship Program over the course of this 5-year Plan. Numerous adjustments have been made to this Plan, both in content and budget, and CARE fully considered and incorporated or addressed all the recommendations from the Advisory Committee along with draft Plan feedback from CalRecycle. A summary of Advisory Committee recommendations and CARE responses to the recommendations is presented in Attachment 5.

In summary, this plan is fully compliant with all statutory requirements, is fully funded for execution to meet or exceed the 24% statutory recycling rate as of January 1, 2020 and addresses and explains all relevant parts of the Carpet Recycling Laws.

Respectfully submitted,

Robert Peoples, Ph.D., Executive Director
Carpet America Recovery Effort (CARE)
A. Contact Information

**Designated Stewardship Organization**

<table>
<thead>
<tr>
<th>Organization Responsible for the Plan</th>
<th>Carpet America Recovery Effort (CARE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact</td>
<td>Robert Peoples, Ph.D. Executive Director</td>
</tr>
<tr>
<td>Phone</td>
<td>(706) 428-2127 office (214) 300-5206 cell</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:bpeoples@carpetrecovery.org">bpeoples@carpetrecovery.org</a></td>
</tr>
<tr>
<td>Address (mailing and physical)</td>
<td>100 South Hamilton Street Dalton, GA 30720</td>
</tr>
<tr>
<td>Website</td>
<td><a href="http://www.carpetrecovery.org">www.carpetrecovery.org</a></td>
</tr>
</tbody>
</table>

**Carpet America Recovery Effort (CARE)** is the designated stewardship organization of the Carpet Mills and is responsible for submitting this Plan. CARE is a 501(c)(3) nonprofit organization. CARE began in 2002 as a result of a Memorandum of Understanding (MOU) for Carpet Stewardship signed by stakeholders including members of the carpet industry, government representatives, nongovernmental organizations, and entrepreneurs. California Assembly Bill 2398 required CARE to serve as the carpet stewardship organization until April 1, 2015, and CARE is continuing in that role with the support of all Carpet Mills doing business in California under the CARE Plan.

CARE is the facilitator and networker for the market-based system for post-consumer carpet recycling across the United States. CARE actively supports its members—including entrepreneurs, the carpet industry, government entities, and nongovernmental organizations—to achieve its mission. CARE’s mission is to advance market-based solutions that increase landfill diversion and recycling of post-consumer carpet, encourage design for
recyclability, and meet meaningful goals as approved by the CARE Board of Directors. CARE’s vision is that post-consumer carpet landfill diversion and recycling are economically, socially, and environmentally sustainable for all stakeholders.

**CARE Leadership**

The **CARE Board of Directors** currently includes 19 members. Board members are unpaid, and they compose a multi-stakeholder group consisting of representatives of the carpet industry, entrepreneurs, government, the plastics industry, and suppliers to the carpet industry. For a list of current board members, see the *Acknowledgments* page or CARE’s website (www.carpetrecovery.org/about/about-care).

The California Carpet Stewardship Plan and Program is overseen by the **Stewardship Planning Committee** (SPC) and the **Sustainable Fund Oversight Committee** (SFOC). The SPC and SFOC are empowered by the CARE Board in their oversight role and include both industry and entrepreneur representatives. Currently, one member of the SPC and SFOC represents a California-based business. Under this new Plan, CARE will expand the SPC to include a second member representing California-based non-Mill businesses and will hold two of the four quarterly meetings in California. This addition will occur no later than June 2019. A list of SPC and SFOC representatives is included in the *Acknowledgments*.

Under the oversight and direction of the SFOC and SPC, the CARE team of staff and contractors are responsible for all aspects of program implementation.
Participants in the CARE California Carpet Stewardship Plan

In 2011, the Carpet Mills elected to submit the original plan under AB 2398 for a 5-year period ending December 31, 2016; the Carpet Mills have elected to submit this updated Plan for an additional 5-year period through December 31, 2022. The 5-Year period also enables CARE to set 5-year and annual goals consistent with AB 1158 section 42972(a)(2) as amended. This Plan will build upon and enhance the California Carpet Stewardship Program (Program) which has been in place since 2011. For purposes of clarity, the Program refers to the overall effort pursuant to California Stewardship Laws to reduce disposal and to increase the recycle of post-consumer carpet, while this Plan is focused on the structure and elements of the Program for the next 5 years. As of December 2017, the Program includes 76 Carpet Mills as participants covered under this Plan. Attachment 3. California Carpet Stewardship Plan Mill Participants provides a list of Carpet Mill participants in the California Carpet Stewardship Plan. This list will be updated from time to time, but at least annually.

The Program maintains detailed up-to-date contact information for the list of registered Carpet Mills covered in the California Carpet Stewardship Plan and associated Program. On a regular basis, typically quarterly, the Program submits to CalRecycle the list of registered Carpet Mills. CalRecycle posts the official list of registered Plan participants on the CalRecycle website (www.calrecycle.ca.gov/carpet/) in compliance with California Stewardship Laws.

The Program, consistent with statute and regulations, also requires participating Carpet Mills to submit a list of brands, including private labels, to the Program on a quarterly basis. Brand listings are maintained separately from Carpet Mill listings to preserve any competitive business information. Updated listings are provided to CalRecycle on a regular basis, but also when changes occur.
The Program follows a standard process for registering Carpet Mills and other participants. In addition to Carpet Mills, the Program involves collector/sorters, processors, and manufacturers, as described in subsequent chapters of this Plan. All participants are required to be CARE members in good standing and to maintain a current signed legal agreement, which outlines contractual compliance requirements, and to meet other Program requirements, including Agreed Upon Procedures (AUPs). Participant support documents, such as a welcome package, registration, and reporting procedures, are available on the Program website or by request to CARE.

CARE maintains a discrete and separate set of books and accounts for the California Program. CARE membership fees are for the sole purpose of conducting the national business of CARE. CARE has developed excellent internal controls for efficient operations as exemplified by the outcome of the most recent audits by both our independent auditor and the CalRecycle auditor: that is, no findings.

Regarding CalRecycle’s comment, CARE will consider the creation of a California-based CARE LLC when this Plan is approved.
This chapter presents an overview of the scope of the California Carpet Stewardship Plan. In 2010, the California legislature enacted AB 2398, to add Chapter 20 to Part 3 of Division 30 of the Public Resources Code (commencing with Section 42970), relating to the recycling of post-consumer carpet (PCC) and the reduction in disposal of PCC sent to California landfills. In 2017, the California legislature enacted AB 1158, to amend certain provisions of Chapter 20. AB 2398 and AB 1158, along with their implementing regulations, and shall be collectively referred to herein as the “Carpet Stewardship Laws” or statute.

As called for in Carpet Stewardship Laws, particularly Section 42972(b), the Plan is designed to accept and manage all suitable post-consumer carpet, regardless of polymer type or primary materials of construction. The Plan follows the standard outline presented in Section 18942 of the California Code of Regulations, Title 14, Chapter 11, Article 1.0, Product Stewardship for Carpets. Table 1 at the end of this chapter lists key sections of the Public Resource Code, Section 42970, and Title 14, Article 1, of the California Code of Regulations and identifies where they are addressed in this Plan. The Plan is organized into the following chapters:

- **A. Contact Information**—describes CARE and provides its contact information as the designated stewardship organization, along with CARE’s leadership and participants in the California Carpet Stewardship Program.
- **B. Scope**—provides an overview and orientation to the key elements of the Plan (this chapter).
- **C. Performance Goals and Activities**—presents the 8 main goals the Program is designed to achieve as well as measurement information; also describes source reduction reporting.
- **D. Solid Waste Management Hierarchy**—describes how the Plan’s approach to managing carpet aligns with California’s solid waste management hierarchy and supports preferred methods.
- **E. Collection System**—summarizes California’s collection system for carpet and the process for collection, sorting, reuse, processing, and manufacturing into recycled-content products.
F. Market Development—describes the Plan’s approach to increasing markets for collection, processing, and manufacturing of carpet through subsidies, incentives, grants, research and development (R&D), technical assistance, education & outreach (E&O) and other program elements as deemed appropriate in response to market dynamics.

G. Financing Mechanism—presents the Program’s approach to financing, including the assessment levels effective January 2019, and the first budget overview for this Plan; the budget is subject to future modification and development to address market conditions and meet statutory goals.

H. Education and Outreach—summarizes education, outreach, and marketing activities aimed at multiple stakeholders, including retailers, installers, local government, state agencies, collection sites, nongovernmental organizations, contractors, facilities managers, commercial building owners, Carpet Mills, and the public in support of all program goals.

I. Program Performance Measurement—lists the metrics that will be used in tracking and managing the Program’s performance over time, including annual reporting.

J. Stakeholder Consultation—describes the stakeholder engagement involved in developing this Plan, including the California Council on Carpet Recycling (Council), and beginning in 2018, the Advisory Committee as mandated by statute during the term, stakeholder workshops and online feedback, as well as ongoing stakeholder consultation anticipated over the course of the Plan.

K. Audits—explains how the Program will meet its statutory and regulatory responsibilities for required auditing of both the California Carpet Stewardship Program and the CARE organization.
L. Environmental Information—briefly references CalRecycle’s previous finding in 2012 that the Program has no significant adverse effect on the environment.

Attachments—includes additional reference materials relevant to the California Carpet Stewardship Plan and Program. Additional program materials referenced throughout this document may be available on the Program website https://carpetrecovery.org/california/ or by request to CARE.

This California Carpet Stewardship Plan represents extensive work by and engagement with CARE, its committees, the former California Council on Carpet Recycling, the newly formed Advisory Committee, CalRecycle, and other industry and public stakeholders. This Plan covers the five-year period from 2018–2022. Among the many high-level changes to this Plan, CARE has increased funding for grants, added funds for technical assistance, added new subsidies, discontinued subsidies to Carpet As Alternative Fuel (CAAF) and Kiln, and has hired a new fulltime Program Director. Pursuant to PRC Sections 42970 and 42972, this Plan achieves the purposes of the California Stewardship Laws, by continuing to drive a reduction in disposal of carpet and recycle carpet and/or its constituent parts into secondary products and is consistent with all new requirements of PRC 42972.2(a).

CARE believes the best strategy over the next several years is to focus on two key strategy elements, both grounded in market development. Refer to Chapter F. Market Development for additional discussion. Success in accomplishing these two strategic elements will drive justifiable growth in collections and thus, increase carpet recycling and reduce carpet disposal:

- Expand the number of products which contain Post-Consumer Carpet (PCC) recycled content.
- Grow the markets for all products containing PCC recycled content—both existing and new products.

To enable this growth, the Plan calls for continuation of the grant program including annual allocations of $3 million in 2018, $5.1 million in 2019, $3.1 million in 2020, and $1.1 million each year in 2021 and 2022. Funding may be increased or decreased if conditions and accomplishments justify. These funds will specifically prioritize highest recyclability and in-state capacity, both new capacity as well as expanding existing capacity. The capacity will be prioritized in the areas of PCC processing, fiber usage, backing residue.
processing, and/or Tier 2 product capacity. In addition, funds have been expanded for product development and testing, technical support to aid companies in such development work, along with hiring additional CARE resources. Subsidies (new and existing) will also support these efforts. Efficiency of this market development strategy will be evaluated on an annual basis. Key metrics may include, but are not limited to:

- New recycled output capacity generated per dollar invested.
- Number of California jobs created per dollar invested.
- Number of new products developed.
- Number of new markets opened.
- Sales to State agencies under the State Agency Buy Recycled Campaign (SABRC). (Note: this information is not tracked today.)
- Total sales of recycled products.

The California Carpet Stewardship Plan is subject to the dynamic market conditions that affect all global industries and recycling commodities. With this in mind, the Plan seeks to stimulate the marketplace through a combination of subsidies, incentives, and support while also relying on traditional business and investment practices to drive recycling infrastructure and capacity to support the Plan. In keeping with this approach, this Plan embraces the mandate of increasing carpet recycling using a market-driven approach in which Program funds are used to encourage markets to become self-sustaining within the traditional market framework and maintain fair market conditions for carpet products. The past five years have provided key lessons: recycling markets are not only dynamic, but often unpredictable and coupled with global supply chains outside the control of CARE, and thus difficult to manage. The Carpet Mills and CARE have learned from this experience and, to this end, have built in flexibility and responsiveness as essential elements of this Plan.
The Program has made numerous meaningful improvements over time by increasing the number of Program-supported public drop-off sites to collect used carpet for recycling, expanding face-to-face visits with retailers, grant-funded projects, initiation of installer education and training, and overall participants in the Program. The Program sees upward trends in the pounds of carpet recycled, carpet collections, and use of materials recovered from carpet in new recycled-carpet-content products. An additional collection subsidy has been introduced effective January 1, 2018, to further incentivize the reuse or recycle of carpet tile. Despite challenging global recycling conditions in 2015 through 2017, CARE believes markets are beginning to improve, and new technology and products are developing, through the support of the Program’s incentives. CARE has seen a general increase in the recycling rate over the last 9 quarters and this Plan reflects and builds on those improvements.

Goals will be accomplished through the implementation of an extensive and flexible set of initiatives and targeted incentives that seek to stimulate market-based solutions. Performance is monitored on an ongoing basis, and CARE continues to voluntarily update CalRecycle quarterly on the state of the program.

The passage of AB 1158 incorporates changes into the Carpet Stewardship Laws that will affect the design and implementation of the California Carpet Stewardship Program over the course of this 5-year Plan. As a result, adjustments have been made to this Plan, both in content and budget.

This Plan incorporates annual and five-year performance goals that meet the statutory requirements of the Carpet Stewardship Laws to increase the amount of post-consumer carpet that is diverted from landfills and recycled into secondary products or otherwise managed in a manner that is consistent with the state’s hierarchy for waste management practices. The performance goals and activities established in this Plan continue to build on those
identified in the previous plan submitted in 2011. This Plan is designed to support the following 8 performance goals:

1. Increase the recyclability of carpet.
2. Expand and incentivize markets for products made from post-consumer carpet.
3. Increase the reuse of post-consumer carpet.
4. Increase the weight of post-consumer carpet that is recycled.
5. Reduce the disposal of post-consumer carpet.
6. Increase the collection convenience for the recycling of post-consumer carpet and increase the collection of post-consumer carpet for recycling.
7. Increase processor capacity, including processor capacity in California.
8. Achieve a 24% recycling rate goal for post-consumer carpet by January 1, 2020 and any other recycling rate goal established by the Department.

Annual goals are included in this Plan. Goals may be adjusted over the course of this Plan consistent with statutory requirements as directed by CalRecycle in line with the 2020 and subsequent rate setting reviews specified in Carpet Stewardship Laws to occur no sooner than January 1, 2020 and no less than every 3 years thereafter.

Drawing on input from the California Council on Carpet Recycling obtained during four facilitated meetings held in 2016 and an additional six meetings in 2017, which are summarized in Attachment 14, along with additional input from a series of meetings held with CalRecycle staff in the first 9 months of 2017, as well as input obtained from the new Advisory Committee and CalRecycle in Q1 2018, the Plan identifies the strategy areas listed below for accomplishing the performance goals.

Some strategy areas are currently referenced without specific budgetary allocations but may be activated over the course of the Plan based on progress toward performance goals, changes in market conditions, or other Program needs. Activation if/when deemed appropriate would result in budgetary reallocations. The consideration and decision-making process for activating or adjusting these various strategy areas (also known as “levers”) will generally employ the following sequence: 1) monthly data reviews and
trend analysis, 2) quarterly reviews, 3) identification of possible changes, 4) review of recommendations with the SPC, 5) consultation with the Advisory Committee, 6) review with CalRecycle and request for approval if appropriate, and 7) implement after final approval by the SFOC. As recommended by CalRecycle and from experience gained in prior years, the Plan incorporates significant flexibility in its operation and execution of these strategy areas, allowing CARE to react rapidly and efficiently to changing market conditions that history has instructed we can expect over the next 5-year period.

Strategy Areas:
- Subsidies
- Grants
- Other Financial Incentives
- Market and Product Development
- Research and Development (R&D)
- Technical Assistance
- Education and Outreach
- Collections
- Systems
- Staffing

Please refer to the California Council on Carpet Recycling section that begins on page 233 for more detail on incorporation of ideas from the previously operational California Council on Carpet Recycling. Under this Plan, CARE continues to refer to the Council under its historical role as established in 2015. With the passage of AB 1158, the CalRecycle Director, consistent with §42971.1, appointed a new Advisory Committee, effective January 1, 2018, and will be functional during the term of this Plan. As a result, CARE dissolved the existing Council upon formation of the new Advisory Committee, which will assume some of the functional roles otherwise identified for the Council under this Plan. Throughout the term of this Plan, CARE will consult with the Advisory Committee as required under statute, prior to proposing any significant changes to the Plan. This Plan still reflects the cumulative input of the former California Carpet Council and current Advisory Committee.
A robust and growing carpet recycling industry also requires a healthy and profitable carpet industry. Subsidies, grants and other program costs are funded via the assessment placed on new carpet sales. Analysis shows if the assessment gets too high, it will adversely impact new carpet sales. This is an important consideration since CARE estimates carpet sales underpin more than 20,000 California jobs, but sales also serve as the basis for revenue generation to support the Plan. Price elasticity implications of the assessment are referenced on page 175. Thus, it is important that CARE and CalRecycle work together to find the right balance for a successful Program. This Plan takes all these factors into consideration.
B. SCOPE

Table 1. Pertinent Statutory and Regulatory Language by Plan Chapter

<table>
<thead>
<tr>
<th>Entire Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCR §18942(b). The stewardship plan must be submitted electronically</td>
</tr>
<tr>
<td>according to instructions provided by the department. A hard copy signed by</td>
</tr>
<tr>
<td>a corporate officer of a manufacturer or stewardship organization, under</td>
</tr>
<tr>
<td>the penalty of perjury, must also be submitted to the department.</td>
</tr>
</tbody>
</table>

C. Performance Goals and Activities

PRC §42975(a). In order to achieve compliance with this chapter, a carpet stewardship organization shall, on or before July 1, 2013, and annually thereafter, demonstrate to the department that it has achieved the amount and rates of recycling and a reduction in disposal of postconsumer carpet subject to its stewardship plan and the other goals included in the organization’s plan pursuant to paragraph (2) of subdivision (a) of Section 42972. In determining compliance, the department shall consider all of the following:

(1) The baseline rate of compliance against which the demonstrated improvement is compared, including progress in achieving the goals outlined in subparagraphs (A) to (E), inclusive, of paragraph (2) of subdivision (a) of Section 42972.

(2) The quantifiable five-year goals and annual goals included in the carpet stewardship plan pursuant to paragraph (2) of subdivision (a) of Section 42972.

(3) Information provided in the organization’s report to the department pursuant to Section 42976.

(b) If more than one organization submits a carpet stewardship plan pursuant to this chapter, the department shall use information submitted by the organization in its annual report pursuant to Section 42976 to determine to what extent the recycling rates, the reductions in disposal rates, and the achievement of the other goals included in the plan are attributable to each organization and shall determine compliance with this chapter accordingly.
C. Performance Goals and Activities (continued)

PRC §42972(a)(2). Achieve a 24-percent recycling rate for postconsumer carpet by January 1, 2020, and any other recycling rate established by the department pursuant to Section 42972.2. The carpet stewardship plan shall include quantifiable five-year goals and annual goals for how the recycling rate will be achieved and how the carpet stewardship organization or manufacturer plans to do the following:

(A) Increase the weight of postconsumer carpet that is recycled and reduce the disposal of postconsumer carpet.

(B) Increase the collection convenience for the recycling of postconsumer, carpet and increase the collection of postconsumer carpet for recycling.

(C) Expand and incentivize markets for products made from postconsumer carpet.

(D) Increase processor capacity, including processor capacity in California.

(E) Increase the recyclability of carpet.

PRC §42972.2. (a) The Legislature hereby declares that it is the goal of the state to reach a 24-percent recycling rate for postconsumer carpet by January 1, 2020, and to meet or exceed that rate continually thereafter.

(b) No sooner than January 1, 2020, and no less frequently than every three years thereafter, the department shall review and may adjust the recycling rate and program goals set forth in paragraph (2) of subdivision (a) of Section 42972, based on information included in carpet stewardship plans and annual reports, other information provided by carpet stewardship organizations, and economic and any other relevant information.

CCR §18943(a)(3). The program described in the stewardship plan shall contain a set of performance goals and criteria that meet the requirements of Public Resources Code Section 42972(a)(2), and also include:

(A) Each goal has a baseline from which it is measured.

(B) The plan describes a methodology for estimating the amount of carpet available for collection in California.

(C) Report on source reduction.
## D. Solid Waste Management Hierarchy

**PRC §42970.** The purpose of this chapter is to increase the amount of postconsumer carpet that is diverted from landfills and recycled into secondary products or otherwise managed in a manner that is consistent with the state’s hierarchy for waste management practices pursuant to Section 40051.

**PRC §42972(a)(3).** Describe proposed measures that will enable the management of postconsumer carpet in a manner consistent with the state’s solid waste management hierarchy, including, but not limited to, source reduction, source separation and processing to segregate and recover recyclable materials, and environmentally safe management of materials that cannot feasibly be recycled.

**CCR §18943(a)(4).** Describe:

(A) Proposed measures that will enable the management of post-consumer carpet in a manner consistent with the state's solid waste management hierarchy pursuant to PRC Section 40051 and demonstrate over time source reduction, and reuse, and recycling will increase, over environmentally safe transformation and land disposal.

(B) Management of carpet through source reduction, reuse and recycling must be greater than, and grow at a higher rate than the management of carpet in any form, including Carpet As Alternative Fuel (CAAF), used as a fuel.

(C) This Article does not modify or abrogate in any manner existing provisions of Section 41783 of the Public Resources Code related to transformation that allow jurisdictions to reduce their per-capita disposal rate by no more than 10 percent.
## E. Collection System

CCR §18943(a)(5). Describe the system that will be used to collect and properly manage post-consumer carpet. This description must include the following:

(A) Type of collection sites used.

(B) Types of reuse and recycling activities, processing and/or disposal by product type.

(C) Description of how service providers handling old carpet will be able to readily, accurately, and economically identify the type of carpet polymer to facilitate reuse and recycling, e.g., labeling on the back of carpet, affordable laser detection devices, or other technology.

(D) General description of best management practices to be followed by the service providers, including any training that the manufacturer or stewardship organization intends to provide to or require of service providers to ensure proper collection and management of post-consumer carpet.

(E) Description of how each consumer that pays a carpet stewardship assessment, including but not limited to those in rural areas, will be provided reasonably convenient opportunity(ies) in each county to manage their post-consumer carpet.

## F. Market Development

CCR §18943(a)(6). Market Development. Describe incentives or methods to increase recycling of carpet into secondary products.
### G. Financing Mechanism

PRC §42972(a)(4). Include a funding mechanism, consistent with subdivision (c), that provides sufficient funding to carry out the plan, including the administrative, operational, and capital costs of the plan, payment of fees pursuant to Section 42977, and incentive payments that will advance the purposes of this chapter, including incentives or grants to state-approved apprenticeship programs for training apprentice and journey-level carpet installers in proper carpet recycling practices. Any grants or subsidies provided for the recycling of postconsumer carpet shall be structured to incentivize the recycling of carpet materials that have the highest recyclability. The funding mechanism shall account for the need to provide the industry, including carpet installation contractors, with fair notice of changes to the amount of the carpet stewardship assessment established pursuant to subdivision (c).

PRC §42972(c)(1). The funding mechanism... shall establish and provide for... a carpet stewardship assessment per unit of carpet sold in the state in an amount that cumulatively will adequately fund the plan and be consistent with the purposes of the chapter.
G. Financing Mechanism *(continued)*

CCR §18943(a)(7). Financing Mechanism. Include a funding mechanism that provides sufficient funding to recover, but not exceed, the cost of the carpet stewardship program, including the administrative, operational, and capital costs of the plan. The funding mechanism includes the following:

(A) A carpet stewardship assessment per square yard of carpet sold in the state, or by some other unit, as approved by the department.

(B) A budget for the program that includes revenue estimates from the assessment, full program costs, and administrative costs; including those pursuant to Section 18948 regarding service payments to the department.

(C) A requirement that any surplus funds will be put back into the program to reduce the costs of the program, including the assessment amount.

(D) An assessment amount that is sufficient to meet, but not exceed, the anticipated cost of carrying out the plan.

(E) An assessment amount that does not create an unfair advantage in the marketplace.

(F) An allocation of funds that support the solid waste management hierarchy and program goals identified in the stewardship plan.
   a. Funds designated for CAAF, must be supported with documentation that provides evidence of a net environmental benefit over landfilling and that without an incentive more materials would be landfilled.
   b. A carpet stewardship organization shall not expend funds from the assessment for engineered municipal solid waste conversion, as defined in Public Resources Code Section 40131.2, the use of cement kilns to burn carpet, or transformation, as defined in Public Resources Code Section 40201.

(G) Stewardship organization and manufacturers shall allocate revenues and expenditures applicable to this program in accordance with Generally Accepted Accounting Principles.

(H) The stewardship plan shall describe how the collection and expenditure of carpet assessment funds shall be kept separate from other activities of the stewardship organization.
H. Education and Outreach

PRC §42972(a)(5). Include education and outreach efforts to consumers, commercial building owners, carpet installation contractors, and retailers to promote their participation in achieving the purposes of the carpet stewardship plan.

CCR §18943(a)(8). Education and Outreach. Include education and outreach efforts to consumers, commercial building owners, carpet installers, and retailers to promote their participation in achieving the purposes of the carpet stewardship plan. The description shall include how the outreach and education methods will be used and distributed, and how effectiveness of these activities will be measured. Educational information may include, but is not limited to, signage, written materials, advertising or other promotional materials pursuant to Section 42972(a)(5).

I. Program Performance Measurement

CCR §18943(a)(9). Describe how attainment of the goals will be measured per Section 18943(a)(3)(c). Program data shall be collected for purposes of annual report submittal (see Section 18944 Annual Report Compliance Criteria). Information to be provided includes, but is not limited to: (A) Specific information on the measurement methodology, assumptions, conversion factors, if used, and data sources.
### J. Stakeholder Consultation

PRC §42972.1. (a) The Director of Resources Recycling and Recovery shall appoint members to an advisory committee, which shall make recommendations on carpet stewardship plans submitted to the department pursuant to Section 42972. The Speaker of the Assembly and the Senate Committee on Rules shall each appoint one additional member to the advisory committee. The advisory committee may be composed of, among others, individuals in the environmental community, the solid waste industry, and local government, public or private representatives involved in the collection, processing, and recycling of carpet, and other interested parties as determined by the Director of Resources Recycling and Recovery. The Director of Resources Recycling and Recovery shall appoint to the advisory committee one member who represents carpet manufacturers and at least one member who is a representative of either the Southern California Resilient Floor and Decorative Covering Crafts Joint Apprenticeship and Training Committee or the Northern California Floor Covering Finishing Trades Institute Joint Apprenticeship Training Committee.

(b) A carpet stewardship organization or manufacturer, as applicable, shall provide to the advisory committee a copy of the carpet stewardship plan or amendments to the plan no less than 30 days before submitting the carpet stewardship plan or amendments to the plan to the department pursuant Section 42972. A carpet stewardship organization or manufacturer, as applicable, shall provide to the advisory committee a copy of the annual report required pursuant to Section 42976 no less than 30 days before submitting the annual report to the department. The advisory committee shall provide comments and recommendations to the carpet stewardship organization or manufacturer and to the department based on their review of the materials.

(c) A carpet stewardship organization or manufacturer, as applicable, shall incorporate to the extent feasible the advisory committee’s recommendations into the carpet stewardship plan, amendments to the plan, or annual report before submitting the plan, amendments to the plan, or annual report to the department. If the carpet stewardship organization or manufacturer is unable to incorporate the recommendations, it shall provide a written explanation to the department and the advisory committee. The explanation shall detail whether the carpet stewardship organization or manufacturer plans to incorporate the recommendations into a subsequent carpet stewardship plan, subsequent amendments to the plan, or a subsequent annual report.

(d) A member of the advisory committee shall serve without compensation but shall be reimbursed for actual and necessary travel and other expenses incurred in the performance of his or her official duties.
### J. Stakeholder Consultation (continued)

CCR §18943(a)(10) Stakeholder Consultations. A manufacturer or stewardship organization that submits a plan shall include a process of consultation with affected stakeholders and consider the existing infrastructure in the development of the plan. Stakeholders may include, but are not limited to, other manufacturers and stewardship organizations, service providers, state and local governments, non-governmental organizations, haulers, demolition or other contractors, recyclers, retailers and wholesalers, installers, and consumers.

### K. Audits

PRC §42972(a)(6). Include a process by which the financial activities of the organization or individual manufacturer that are related to implementation of the plan will be subject to an independent audit, which may be reviewed by the department.

CCR §18943(a)(11) Audits. Include a process by which the financial activities of the stewardship organization and individual manufacturer that are related to implementation of the stewardship plan will be subject to an independent audit, results of which will be submitted in the manufacturer or stewardship organization's annual report and reviewed by the department.

### L. Environmental Information

CCR §18943(a)(12). Plans shall be accompanied with information to assist in completing an initial study under the California Environmental Quality Act.
C. Performance Goals and Activities

This chapter describes the Program’s performance goals in the required areas, along with baseline data and methodologies. The performance goals in this Plan are designed to meet or exceed the goals established previously by achieving a recycling rate of 24% by January 1, 2020, consistent with the California Stewardship Laws and 27% by December 31, 2022. CARE will consult with CalRecycle specifically in 2018 and 2019 to provide input on setting realistic goals and/or determining appropriate adjustments that may be required to meet and/or exceed future targets. The goals listed in this Plan recognize changes in market conditions and anticipate future changes in recycling infrastructure and capacity growth in California based on current understanding of the marketplace as informed by over 6 years of Program experience and participant feedback. The Program will assess performance and market dynamics annually and review progress with CalRecycle and the Advisory Committee.

Based on history whatever future we project will likely look quite different in 12 months or less. As a result, CARE has examined historical trends in the recycling rate and suggests targets that fall within ±20% are more realistic than a single target or goal. The following graph exemplifies this concept and CARE posits that as long as recycling rate results fall within the green lines, solid progress toward increasing the recycling rate is being achieved. The one exception is driven by the statutory recycling rate goal of 24% by January 1, 2020.
CARE sought approval for continuation of the grants program in August 2017 to facilitate continued investment in capacity expansion and new product development. However, CalRecycle declined to approve a new grant cycle which has delayed full implementation of the grants program for more than a year. Nevertheless, CARE is working diligently to ensure hitting the 24% goal by the end of 2019.

Progress toward performance goals are reported annually within the Program’s annual report to CalRecycle and compared to baseline year and prior calendar year measurements, respectively, as established in previous annual reports. Per CalRecycle guidance, the baseline year is defined as the first 12 months of the Program implementation period, or July 1, 2011, to June 30, 2012. All subsequent annual data is presented on a calendar year basis from January 1 to December 31 of each reporting period. The Program voluntarily provides interim progress report briefs to CalRecycle on a quarterly basis, highlighting key results especially related to subsidy and
incentive payouts, Carpet Mill reporting, gross collection, recycling rates, recycling industry status/health, and market conditions. The content of these quarterly reports may be adjusted over the course of this Plan to improve transparency and as the Program learns and evolves. Quarterly reports are published to the CalRecycle website for the public record.

Subsequent chapters of the Plan describe in greater detail how these goals will be achieved, particularly Chapter E. Collection System, Chapter F. Market Development, and Chapter H. Education and Outreach.

This chapter also briefly addresses reporting on source reduction, a topic which is also covered in Chapter D. Solid Waste Management Hierarchy.

**Discards Calculation**

Many of the performance goals are measured against the estimated amount of annually discarded post-consumer carpet, or discards. The Program is tasked with managing and tracking post-consumer carpet discards, while seeking to increase the recycling rate, reduce disposal and support other Program goals. The following formula is used for estimating the total weight of discards.

\[
\text{Discards} = \left( (\text{Sales} \times R) \times P \right) \times (1 + D + DS)
\]

- **Sales** = Sales in square yards (yd²) in California. Sales data comes from the independent accounting firm Aprio (formerly Habif, Arogeti & Wynne) that collects and consolidates the confidential sales data from the Carpet Mills registered with the Program.

- **R** = Replacement rate (%). Percent of carpet that is replacement for existing carpet. Replaced carpet is typically destined for the landfill. In 2016, this rate was 84%, the same as 2014 and 2015. The remaining 16% of carpet was purchased for new housing or commercial buildings. The rate is derived as the weighted average of the residential and commercial sectors as reported by Market Insights LLC, an independent market research firm.

- **P** = Average weight, in pounds, of carpet per square yard (lbs./yd²). Beginning in Q3 2016 and based on new market survey information, average weight of carpet is now 4.39 lbs./yd². The Program gathers and analyzes raw industry data to calculate the weighted averages of
weights of broadloom carpet and carpet tiles used in the commercial and residential sectors.

- **D** = **Percent, based on weight, of carpet from demolition** projects not replaced (%). Pounds of carpet from demolition projects that was not replaced. The 2016 rate is calculated to be 0.60%, adjusted from 0.51% in 2015. (D= Sales in lbs. x rate)

- **DS** = **Percent of carpet that is eliminated** (deselection) but not replaced by carpet. The estimate based on reviewing historical data is set at 0.75%. (DS=Sales in lbs. x rate)

On an annual basis, CARE conducts a confidential survey of Carpet Mill participants to ascertain the average national weight per square yard of carpet used in the formula above. In addition, CARE contracts with Market Insights to obtain an independent market analysis of California-based activity to determine the replacement, demolition, and deselection rates in the state, which inform the discards formula. The most current analysis was documented in an email to CalRecycle dated July 15, 2016. The revised data was incorporated into the formula for quarterly reporting beginning Quarter 3 of 2016. See Table 2 below for the 2016 calculations. In the future, to keep data on a calendar basis, CARE will conduct the annual weight survey during Q3 and implement the updated figures into the calculation effective January 1st of the next year.

### Table 2. Discards Formula (2016)

<table>
<thead>
<tr>
<th></th>
<th>Q1 2016 - Q2 2016</th>
<th>Q3 2016 - Q4 2016</th>
<th>ANNUAL TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>S * R * P * (1 + D)</td>
<td>= 47,079,394 * 0.84 * 4.2 * (1 + 0.0051)</td>
<td>= 47,049,954.11 * 0.84 * 4.39 * (1 + 0.0060 + 0.0075)</td>
<td>= 342,786,872 lbs</td>
</tr>
<tr>
<td>166,943 lbs</td>
<td>175,843,680 lbs</td>
<td>342,787 million lbs</td>
<td></td>
</tr>
</tbody>
</table>

CARE recognizes that although this formula and approach to discards has been used the past 5 years, it results in a different estimation than CalRecycle’s statewide waste characterization. As part of this Plan CARE commits to resolving this difference and then using the best approach. The delivery of this effort will be through the ongoing Discards Study being conducted by Cascadia Consulting Group. CARE will cooperate with
CalRecycle in providing appropriate data and analyses to support this discards formula analysis. The goal will be to complete the study and review with CalRecycle by the end of Q4 2018. Reaching final agreement on calculation of the denominator is the ultimate goal, though this will be affected by the 2018 waste characterization study by CalRecycle. Thus, the timeframe for resolution will be determined with CalRecycle.

Performance Goals

The following 8 performance goals will serve to guide this program toward successful implementation:

1. Increase the recyclability of carpet.
2. Expand and incentivize markets for products made from post-consumer carpet.
3. Increase the reuse of post-consumer carpet.
4. Increase the weight of post-consumer carpet that is recycled.
5. Reduce the disposal of post-consumer carpet.
6. Increase the collection convenience for the recycling of post-consumer carpet and increase the collection of post-consumer carpet for recycling.
7. Increase processor capacity, including processor capacity in California.
8. Achieve a 24% recycling rate for post-consumer carpet by January 1, 2020 and any other recycling rate established by the Department.

1. Increase the recyclability of carpet.

The recyclability of carpet is a measure of how easily carpets can be separated into their component parts and ultimately recycled into a new secondary product. The challenge with recycling carpet compared to most other recyclable products is that carpet is a combination of multiple different materials that are bound together for long-term durability and performance. These materials in most cases cannot be recycled without being separated into purer components, and they are not separated easily. When separated and adequately processed (“cleaned”) to remove residues, many of the components—which include face fiber, backing fiber, adhesives, and fillers—
can be recycled, although some markets are better developed than others. Recyclability of carpet therefore is driven by the intersection of three primary innovation areas: (1) carpet design choices made at the point of manufacture, such as but not limited to materials selection, construction methods, recycled content use and labeling to ease recycling at the end of life; (2) available collection and processing technology and infrastructure capable of recycling carpet discards at the point of disposal; and (3) available market demand for generated recycled output for their use in new secondary products.

For this Plan, two vantage points will be taken for increasing the recyclability of carpets:

- **Increase recyclability of carpet to be manufactured in the future (Future Carpet).** Design and manufacturing decisions made by carpet mills may also influence recyclability of PCC over time.

- **Increase recyclability of existing carpet that has already been manufactured (Existing Carpet).** Improving processing technology and building stronger markets and products that can use these various recycled output components will be a primary strategy to improving recyclability under this Plan, the latter of which is addressed in the subsequent goal.

**Future Carpet** – Manufacturing choices and generation of discards occur on distinct and vastly different timescales. R&D cycles may occur over periods ranging from a couple years or decades; whereas discards cycles generally range 7-10 years, such that discards collected over the course of the Plan are unlikely to be significantly impacted by mill design choices over the same period. Mill design choices involve many aspects which may be difficult to quantify, CARE has already started to identify a list of criteria against which each material can be evaluated for high or low recyclability (see Goal #8, *Achieve 24% Recycling Rate*, on page 60). CARE will then use these criteria to further refine assessment allocations to support this goal. CARE will also continue to encourage mills to increase recyclability and closed-loop recycling approaches over the term of the Plan, such that future Plans may benefit from material flows with improved recyclability (see *Closed-Loop Recycling* on page 74). Using the planned mill survey described in *Closed-Loop Recycling*, CARE will work to quantify several additional metrics related to product design recyclability which can be used as additional performance metrics related to this goal. CARE will include survey results in annual
reports beginning with 2019 reporting period and may at that time propose specific numeric targets for each metric.

*Existing Carpet* – Due to the time lag of these effects, however, this Plan is designed to measure progress toward the goal of recyclability by recycled output as a portion of gross collections, with a recognition that recyclability improvement over the next 5 years will be driven primarily through back-end recycled product and recycled output processing innovations. *Yield* is the output from processing (shredding, shearing, hammer-milling, depolymerization, and the like) or the portion of gross collected (GC) material that is successfully converted to recycled output for use as a feedstock input for secondary products or back into carpet rather than being discarded. *Yield* increases as more of the collected materials are converted into recycled output. Increased *Yield* may be the result of historical mill design innovations implemented 5-20 years ago, and/or more recent technological advances in processing.

CARE views *Yield* as one indicator of recyclability. As product design and process technology advance, the ability to recycle PCC should increase and this will be reflected in the *Yield* metric. Stakeholders must keep in mind the product development lifecycle is 5-10 years before new design manifests in the recycling stream.

**Primary Performance Goal:** Increase *Yield* to 60% by December 31, 2022.

**Annual Goals (end of year):** 2018 (40%), 2019 (45%), 2020 (50%), 2021 (55%), 2022 (60%)

**Baseline:** In the baseline year of the Program (July 2011–June 2012), the *Yield* was 28%.

**Historical Trends:** Results to date are summarized below.

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</thead>
<tbody>
<tr>
<td>28% of GC</td>
<td>32% of GC</td>
<td>41% of GC</td>
<td>35% of GC</td>
<td>34% of GC</td>
<td>35% of GC</td>
<td>60% of GC</td>
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</tbody>
</table>
**Methodology:** Yield is measured by dividing the total finished recycled output by total gross collections—that is, the amount recovered before recycling. Data are collected monthly and quarterly and reported in annual reports.

**Formula Used for Calculating the Yield**

\[
Yield = \frac{Recycled\ Output}{Gross\ Collections}
\]

The factors used to calculate the *Yield* include:

- **Recycled Output:** pounds of post-consumer carpet (PCC) recovered and reused or recycled into a feedstock for the manufacture of secondary products. Recycled output is calculated based on self-reported actual pounds of finished recycled material shipped and sold by processors to recycled content manufacturers. Collector/sorters and processors are required to maintain records of transactions, such as bills of lading, invoices, and other documentation to support data reported in monthly reports. The Program or its independent accounting firm can review participant records at any time, pursuant to Agreed Upon Procedures (AUPs).

- **Gross Collections:** estimated pounds, as reported by the collector/sorters, of PCC removed from waste stream for reuse, recycle, CAAF, kiln, or WTE, as reported to CARE by recyclers, prior to processing. This also includes unrecyclable PCC or carpet processing waste that may eventually be sent to landfill. CARE will review the gross collection reporting methodology over the course of the first year of the approved Plan to evaluate the benefits of shifting to an alternative mass balance calculation method.
Goal Rationale: With roughly one-third of all material collected being converted to recycled output, the biggest opportunity for increasing recycled output over the near term is in improving Yield. The Program sets a goal that more than doubles Yield over baseline levels. Yield has increased only moderately over the first five years of the Plan, reaching a high of 41% and averaging 35%. If no other advances were made during the term, a 60% yield would result in an increase from 38 million to roughly 64 million pounds of recycled output (based on 2016 gross collections figures), indicating the carpet discards on the whole are more recyclable. With a Program recycled output goal of 27% by 2022, it is anticipated that approximately 84 million pounds of recycled output will need to be generated based on 85 million square yards of sales. This reflects an 80% increase in recycled output pounds over 2017. Combined, these goals indicate that approximately one-third of this output will be from existing sources/outputs, a third will result from improved yield, and the remaining third will be due to other methods supported under this Plan. CARE believes this is an ambitious yet achievable target for the 2022 goal. Additional mill design innovations being made over the course of the Plan, are anticipated to further improve yield and recycled output in future years beyond the length of this Plan, as products are made available for sale, complete their useful life and are discarded 5-20 years from today.

2. Expand and incentivize markets for products made from post-consumer carpet (PCC).

Market growth of secondary products is supported through targeted subsidies, development and testing assistance, promotion of new and existing products that use recycled carpet content to potential purchasers, as well as technical assistance to encourage manufacturers to incorporate recycled carpet content into their new or existing products. Growth incentives are also a “lever” that has been used in the past and is part of the portfolio of tools for consideration. These strategies are discussed in further detail in F. Market Development (see Technical Assistance on page 165). CARE continues to work closely with CalRecycle staff on programs such as Recycled Market Development Zones (RMDZ), State Agency Buy Recycled Campaign (SABRC), and Local Assistance and Market Development (LAMD) to build awareness and support within state agencies for products that contain PCC.
CARE created DoubleGreen™ to advance these products and is working closely with tire recyclers and other manufacturers on the development of DoubleGreen™ products, which incorporate California recycled carpet plus at least one additional post-consumer material into a single product, such as both post-consumer carpet calcium carbonate (PC4) and rubber (from recycled tires) in new products. In addition, CARE has initiated efforts with PaintCare to seek combined options for recycled paint and PC4. Finally, an effort is underway to build recognition of the DoubleGreen™ brand as one mechanism to build demand for recycled-content products already recognized by programs such as SABRC. More broadly growing secondary products using PCC is recognized as a key component of a successful recycling strategy in this Plan. Market growth of secondary products is discussed in more detail in Chapter F. Market Development.

**Performance Goal:** Increase the number of recycled-carpet-content products in the marketplace by 40% by December 31, 2020, over the 2016 baseline. Establish guidelines to include minimum thresholds for recycled carpet content by December 31, 2020.

**Annual Goals (end of year):** 2018 (27 products; 11 vendors, 4 in California), 2019 (30 products; 12 vendors, 5 CA), 2020 (35 products; 13 vendors, 6 CA), 2021 (37 products; 14 vendors, 7 CA), 2022 (40 products; 14 vendors, 7 CA).

**Baseline:** No data is available for the baseline year. As of 2016, 25 products using post-consumer recycled carpet from California were available from 9 vendors (four of the vendors are in California). The Program will use 2016 as the baseline for this metric, as it is the first year in which such data was collected.

**Historical Trends:** Results to date are summarized below.

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<tbody>
<tr>
<td>No data</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
<td>18 products</td>
<td>25 products</td>
<td>35 products</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6 vendors</td>
<td>10 vendors</td>
<td>13 vendors</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(1 CA vendor)</td>
<td>(4 CA vendors)</td>
<td>(6 CA vendors)</td>
</tr>
</tbody>
</table>
**Methodology:** Product catalog basis. For example, if two manufacturers both produce recycled carpet cushion, the carpet cushion product from each manufacturer would count as a separate product. Products with different basic design and composition are considered unique within a company and count as a single product. Alternatively, a product that comes in 10 colors of the design would still be considered a single product for this metric. Product types for recycled PCC products are currently reported in monthly subsidy recipient reports. Additional product information will be requested through annual surveys to mills or Tier 2 manufacturers or as needed to support procurement grants or E&O promotional efforts.

CARE works in collaboration with recycled content manufacturers to maintain a product catalog and to promote available products through Buy Recycled campaigns, while maintaining confidential business information for those participants where confidentiality may be concern. Buy Recycled products information may be listed on the CARE website or other promotional materials, such as flyers. Total weight of PCC recycled output used in secondary products is also reported monthly. Such data is currently limited to non-nylon (PET/PTT and PP) recycled products, although new data is anticipated for nylon 6 (N6) and nylon 66 (N66) products with the launch of new the Tier 2 nylon subsidies.

All Tier 2 subsidy dollars are paid only when materials are shipped and sold and only on the number of pounds of PCC recycled output used in manufacture of secondary products. Thus, 100% of Tier 2 pounds tracked under the manufacturer subsidy are directly attributable as pounds of PCC recycled content. These manufacturer pounds shipped and sold may be used as an additional performance indicator for market growth.

Due to the small number of products using PCC recycled content at this time, manufactures are not currently required to include a minimum amount of PCC recycled content in order to be counted as a recycled carpet product under this goal, although it should be noted that several of the products are composed primarily of PCC recycled content. In addition, several carpet manufacturers also offer products containing PCC recycled content, although percentages generally remain below 10% at this time. CARE created minimum standards for product eligibility related to Cycle 1C procurement grants in 2016. CARE retains the ability to adjust such minimums over the course of the Plan in line with market conditions, available products and to

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2 For a current list of recycled-content products, see [https://carpetrecovery.org/products/](https://carpetrecovery.org/products/).
support performance goals. California vendors counted toward this goal include manufacturers of any recycled products containing PCC recycled content, manufactured within a facility located in California.

**Goal Rationale**: The collector/sorter community has clearly informed CARE they can collect all needed carpet, but the key driver for collection is outlets for what is collected. Thus, working with CARE’s Product and Market Development consultant, Tinney and Associates along with Guiding Green, LLC for the development of the DoubleGreen™ certification, CARE will be working to expand the number of products capable of containing PCC material, the percent PCC recycled content contained in each product and the markets to buy those materials, thereby increasing demand for PCC recycled output and driving collection. A 40% increase in products and a 50% increase in the number of California-based manufacturers within 3 years is seen as an ambitious yet achievable target given the additional resources focused on this objective.

3. Increase the reuse of post-consumer carpet.

Carpet, and particularly carpet tiles, can frequently be reused when removed from one application, to be reused in another installation. Carpet tile is generally easier to reuse than broadloom carpet since broadloom carpet is cut to fit an area when installed. Facilitating reuse includes providing subsidies for broadloom and carpet tile reuse, promoting reuse avenues, such as connecting carpet removal businesses with used building material retailers (e.g., Habitat for Humanity) and encouraging the purchase of used carpet and carpet tile. The issue remains that reuse of such a personal product can be a challenge and is considered much easier for tile than broadloom.

**Performance Goal**: Increase reuse quantities, as measured by weight, by 100% by December 31, 2022, compared to 2016.

**Annual Goals** (end of year): 2018 (1.0M lbs.), 2019 (1.2M lbs.), 2020 (1.5M lbs.), 2021 (1.8M lbs.)

**Baseline**: In the baseline year, 98,000 pounds of carpet were reused.
Historical Trends: Results to date (in pounds) are summarized below.

<table>
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<tbody>
<tr>
<td>98,000 lbs.</td>
<td>152,000 lbs.</td>
<td>26,000 lbs.</td>
<td>174,000 lbs.</td>
<td>602,000 lbs.</td>
<td>926,000 lbs.</td>
<td>2,000,000 lbs.</td>
</tr>
</tbody>
</table>

Methodology: Reuse subsidies are a principal strategy for creating market demand for and tracking progress in broadloom and carpet tile reuse under this Plan. Subsidy recipients report broadloom and carpet tile reuse, respectively, on a monthly basis, as well as the locations in which materials were sold or donated for reuse above a designated threshold, currently 500 pounds. Such reporting detail, along with existing AUPs, require that subsidy participants maintain records to substantiate all claims to provide adequate controls for reuse subsidy payouts. Based on reporting results since 2015 launch of the reuse subsidy, it is estimated that the 500 pounds threshold accounts for over 90% of all reuse pounds. As carpet tile weighs an average ~9 lbs./yd², this threshold is equivalent to approximately 55 square yards, or about the size of a typical family room; reported donations or sales for reuse generally exceed this threshold.

Additional documentation may be required from participants during AUPs. Individual company data is maintained as confidential business information and is used in managing the Program and reducing the potential for fraud. The Program quantifies the amount of carpet tile and broadloom carpet that is reused, and reports results annually. A primary opportunity for broadloom reuse identified to date occurs from material which may be used for the purpose of short-term events or trade shows, resulting in gently used carpet, often in large segments, suitable for reuse. Currently the program does not restrict reuse from these sources as diverting such material to reuse is seen as a high use consistent with California’s waste hierarchy. At this time the program does not require or provide specific guidelines related to cleaning, maintenance or preparation of material for reuse. Under the Plan’s E&O strategy, the program promotes CRI’s Carpet Maintenance Guidelines for cleaning practices intended to extend the life of carpet to retailers and consumers. The Program will conduct a reuse study to better understand potential opportunities for increasing reuse, currently planned for completion in 2020 (Year 3). Reuse is discussed further under Source Reduction, page 71.
Goal Rationale: Higher on the waste hierarchy than recycled output, reuse has historically been a challenging area to track and quantify. In mid-2015, CARE launched a new reuse subsidy to both increase reuse and enable the Program to better track reuse activity occurring in the market place. Since that time, reuse has seen significant increases in both 2015 and 2016 (246% in 2015 over 2014 and 54% in 2016 over 2015). While this growth is continuing, recent trends in 2016 and 2017 seem to be recalibrating to a slower paced growth as these subsidies take hold. As such, the reuse goal is set assuming an average annual growth increase of 20% per year with a result of more than doubling of the number of pounds per year reused by 2022. Because reuse is considered a preferred management strategy higher on the waste hierarchy, the Program will continue to include the pounds reused in the calculation for recycled output and to determine the Program recycling rate as previously approved by CalRecycle in Addendum #3 (January 2016). In 2016, reuse composed less than 3% of total recycled output. Given anticipated increases in total recycled output over the Plan, this goal assumes that reuse will hold constant at an average 2-3% of total recycled output, even as total number of pounds increases consistent with this goal.

4. Increase the weight of post-consumer carpet that is recycled.

Under this Plan, the weight of post-consumer carpet that is recycled is referred to as Recycled Output, or the sum of all carpet material recycled (processed), shipped and sold as Type 1, Type 2, or PC4, as reported by processors, measured in pounds. Reuse, considered a preferred management strategy higher on the waste hierarchy, is added to the sum of all carpet material processed, shipped and sold to calculate the total Recycled Output. Total Recycled Output pounds (carpet material processed + reuse) is also used to determine the Program’s recycling rate, discussed further under Goal #8 (see Achieve a 24% Recycling Rate on page 60) and forms one the Program’s primary performance metrics. It should be noted that the recycling rate shown in Table 3 uses the average recycling rate for the calendar year. Thus, CARE’s model is tied to sales which vary throughout the year due to natural selling cycles: sales are lower in January versus later in the year.
Performance Goal: Increase the annual weight of recycled output to 84 million pounds consistent with a 27% recycling rate by December 31, 2022.

Annual Goals (end of year): 2018 (52M pounds), 2019 (69M pounds), 2020 (81M pounds), 2021 (83M pounds), 2022 (84M pounds).

Table 3. Forecasted Recycled Output and Supporting Data

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>Sales (M yd²)</td>
<td>98.4</td>
<td>90.4</td>
<td>90.0</td>
<td>88.0</td>
<td>87.0</td>
<td>86.0</td>
<td>85.0</td>
</tr>
<tr>
<td>Discards (M lbs)</td>
<td>356.8</td>
<td>345.2</td>
<td>336.4</td>
<td>328.9</td>
<td>325.2</td>
<td>321.4</td>
<td>317.7</td>
</tr>
<tr>
<td>Recycling Rate (%)</td>
<td>8%</td>
<td>14%</td>
<td>17%</td>
<td>24%</td>
<td>26%</td>
<td>26%</td>
<td>27%</td>
</tr>
<tr>
<td>RO (M lbs)</td>
<td>27.6</td>
<td>47.0</td>
<td>51.7</td>
<td>69.0</td>
<td>81.2</td>
<td>83.3</td>
<td>83.9</td>
</tr>
<tr>
<td>Disposal (M lbs)</td>
<td>329.2</td>
<td>298.2</td>
<td>284.7</td>
<td>259.9</td>
<td>244.0</td>
<td>238.1</td>
<td>233.80</td>
</tr>
<tr>
<td>Reduction In Disposal (M lbs)</td>
<td>Base</td>
<td>-31.0</td>
<td>-44.5</td>
<td>-69.3</td>
<td>-85.2</td>
<td>-91.1</td>
<td>-95.4</td>
</tr>
<tr>
<td>Disposal Rate (%)</td>
<td>92.3%</td>
<td>86.3%</td>
<td>83.3%</td>
<td>75.7%</td>
<td>74.2%</td>
<td>73.9%</td>
<td>73.3%</td>
</tr>
</tbody>
</table>

Baseline: In the baseline year, recycling rate was 28M pounds.

Historical Trends: Results to date (in pounds) are summarized below.

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<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>28M lbs.</td>
<td>36M lbs.</td>
<td>44M lbs.</td>
<td>43M lbs.</td>
<td>35M lbs.</td>
<td>38M lbs.</td>
<td>84M lbs.</td>
</tr>
</tbody>
</table>

Methodology: Total recycled output includes the material that results from the industry-recognized processing (shredding, shearing, hammer-milling, depolymerization, etc.) of PCC from a processor. Examples of output include fiber, shredded carpet tile, depolymerized chemical components, carpet filler, PC4, etc. For the purpose of calculating the total recycled output weight (in pounds) reported under this goal and used in calculating the recycling rate, the Program also adds pounds of reuse. Because reuse is considered a preferred management strategy higher on the waste hierarchy.

Formula Used for Calculating Recycled Output

Recycled Output = (Type 1 + Type 2 + PC4 + Reuse) in pounds
The factors used to calculate the recycled output include:

- **Recycled Output**: material recycled (processed), shipped and sold as Type 1, Type 2, or PC4, as reported by processors, plus carpet tile or broadloom reused.
  - **Type 1 Recycled Output**: Higher value tile, fiber or depolymerized recycled output within current ash content limits (currently less than 25%). See *Attachment 1* for full definition.
  - **Type 2 Recycled Output**: Lower value filler, fiber or carcass recycled output in excess of current ash content limits (currently more than 25%). See *Attachment 1* for full definition.
  - **Post-Consumer Carpet Calcium Carbonate (PC4)**: Residual non-fiber recycled output content that is collected by a Type 1 processor when carpet is separated. See *Attachment 1* for full definition.
  - **Reuse**: recovered, sorted, shipped and sold/donated broadloom carpet or carpet tile for reuse, as reported by collector/sorters. Reuse is further defined in *Attachment 1*.

- **Discards**: See the *Discards* formula on page 27.

**Goal Rationale**: The Plan is designed to set realistic goals for Recycled Output (RO) based on current and foreseeable capacity increases from the industry, and assumed growth supported by various subsidies, incentives and other program resources outlined within this Plan. It also takes into consideration new capacity planned to come on line. The setting of RO goals relies on feedback from processors and other program participants (collector/sorters, Tier 2 manufacturers) in terms of their current and projected processing capacities for pounds of Type 1 and other recycled output to be sold.

In 2017, CARE did an extensive survey of processors to obtain their projections for RO through the end of 2017, along with any major growth expansion plans for 2018. This survey, by its nature, contained sensitive business information. CARE will continue to conduct these studies on an annual basis to inform ongoing projections during the lifetime of the Plan. CARE is well suited to do these surveys as we have expertise in the industry, where future projections are often not met, with unexpected delays, customer movement, or equipment issues. That is true even when operating existing equipment and supplying established customers. For example, a
customer may cancel or pause a shipment schedule they previously arranged; equipment failure or breakdown can take production out for days or weeks; permits needed to execute projects can be delayed; new equipment may not arrive as scheduled; new technology may not start up or perform as expected, etc. The start-up of new equipment, which represents capacity expansion to drive RO can be particularly challenging in terms of timing and throughput compared to projections.

Since CARE came into existence more than 16 years ago, there is not one example of a smooth start-up of new PCC processing technology. In most cases, years were required to line out, redesign, or reconfigure equipment and lines. In other cases, new technology investments have been written off because they simply would not work. All this experience underscores the difficulty of accurately projecting growth in RO, which also has implications for assessment-driven funding and timing required to achieve desired targets in line with program goals.

For the purposes of estimating current and projected recycled output therefore, CARE reviewed the survey responses and discounted each projection individually by an average of 30% based on several factors such as operational history, level of technical innovation of expansion (new vs. proven technology being installed), business acumen, history, company size and resource level, project time in development, status of secured purchase orders for new products, etc. These adjusted estimates were then put into a financial model by individual company, assigning total pounds recycled into various subsidy categories based on operational approaches for each business. For example, businesses focusing solely on Type 1 RO had pounds attributed to Type 1 RO; businesses with a diversified business model engaging in commercial carpet RO, Type 1 RO, carpet tile recycling and PC4 RO might have their projected RO pounds divided among these various categories, based on historical outputs, operational approach, direct feedback, and market trends. Surveyed businesses included both existing participants as well as known potential participants currently in some level of business development within this marketplace. In some cases, excess pounds needed to reach recycling rate targets were applied to one or more processors or a to be determined (TBD) company to sum up to the target recycling rate. RO projections are considered both ambitious and achievable, although meeting these targets will require growth in secondary markets and products as well as improvements to or expansion of existing recycling capacity, technology and/or infrastructure. Such advances will be incentivized by the various strategies outlined within this plan especially
including subsidies, grants and technical assistance. See Chapter G. Financing Mechanism for further discussion of CARE’s modeling tools.

Total program RO by year for each participant was then totaled to estimate annual RO for years 2018 – 2020, respectively. Annual RO estimates were divided by discards to calculate the associated annual recycling rates as a percentage of discards (see Goal #8, Achieve a 24% Recycling Rate, on page 60). The 27% by 2022 was selected based on the cumulative projected RO by all processors, along with reasonable assumptions for market growth. Selected RO percentage targets were designed to increase the Program’s current recycling rate by approximately 2% per year over the course of the Plan (10 percentage point increase over 5 years). These goals continue and strengthen the prior Plan’s goal of 16% by 2016 and 24% by the end of 2020, by removing the 2020 target and thereby shortening the timeline to achieve a 24% recycling rate to January 1, 2020. Table 4 depicts an empty version of the quantitative analysis tool in which pounds of anticipated RO would be attributed to each company by type by month. Due to the confidential nature of this information, numbers and company names have been removed.

Table 4. Assignment of Recycled Output (RO) by Company Approach

| Category                          | JAN 17 | FEB 17 | ... | DEC 18 | JAN 18 | FEB 18 | ... | DEC 18 | JAN 19 |...
|-----------------------------------|--------|--------|-----|--------|--------|--------|-----|--------|--------|-----
| Type 1 Processed Fiber            |        |        |     |        |        |        |     |        |        |     |
| Company A                         |        |        |     |        |        |        |     |        |        |     |
| Company B                         |        |        |     |        |        |        |     |        |        |     |
| Company C                         |        |        |     |        |        |        |     |        |        |     |
| Company D                         |        |        |     |        |        |        |     |        |        |     |
| Tier 1 Backing Material (PC4)    |        |        |     |        |        |        |     |        |        |     |
| Company A                         |        |        |     |        |        |        |     |        |        |     |
| Company B                         |        |        |     |        |        |        |     |        |        |     |
| Company C                         |        |        |     |        |        |        |     |        |        |     |
| Company D                         |        |        |     |        |        |        |     |        |        |     |
| Tier 2 Non-Nylon                  |        |        |     |        |        |        |     |        |        |     |
| Company 1                         |        |        |     |        |        |        |     |        |        |     |
| Company 2                         |        |        |     |        |        |        |     |        |        |     |
| Company 3                         |        |        |     |        |        |        |     |        |        |     |
| Company 4                         |        |        |     |        |        |        |     |        |        |     |
| Tier 2 N6                         |        |        |     |        |        |        |     |        |        |     |
| Companies by name                 |        |        |     |        |        |        |     |        |        |     |
| CSE Collections                   |        |        |     |        |        |        |     |        |        |     |
| Companies by name                 |        |        |     |        |        |        |     |        |        |     |
| Total RO per CalRecycle defn.     |        |        |     |        |        |        |     |        |        |     |

Total pounds for each company by month entered into master table (all confidential business information)
It is also clear there will be fluctuation in RO performance and growth. To address this, CARE will maintain the financial model on an ongoing basis, adjusting at least annually, based on the best available data and industry feedback to ensure fund solvency as RO increases in line with Program goals. It should be noted, more rapid increases in RO may decrease available funds for subsidies and other program resources. In the event RO increases more rapidly than projected, this tool will help CARE to consider potential adjustments to subsidies, resources or assessment level over the term of the Plan. The converse of this is also true, should RO decrease, remain flat or increase at a slower pace than anticipated, the tool will be used to evaluate potential adjustments or additions to the subsidies, incentives, resources or assessment level to stimulate RO in line with the Plan’s stated RO goals. Models used in setting RO projections and subsidy levels are discussed further in Chapter G. Financing Mechanism.

5. Reduce the disposal of post-consumer carpet.

California Statute defines disposal as the management of solid waste through landfill disposal, transformation, or engineered municipal solid waste (EMSW) conversion, at a permitted solid waste facility (PRC 40192). Per this definition of Disposal and the requirements of the Carpet Stewardship Laws, the following items will be considered Disposal under this Plan:

Landfill, CAAF, Cement Kiln, WTE, Incineration

Under this Plan, CARE manages PCC with an intent to reduce the amount of PCC disposal by increasing the amount of PCC which can be recycled. Consistent with the requirements of the Carpet Stewardship Laws, the Program will track and report total disposal as well as reduction in disposal as performance indicators.

Performance Goal: Reduce the disposal of PCC by 28% by December 31, 2022, compared to baseline of 2011/2012.

Annual Goals (end of year): 2018 (-13%), 2019 (-20%), 2020 (-24%), 2021 (-26%)

Baseline: In the baseline year of 2011/2012, 92% of discards were disposed.
Since this is a new metric, the following table details the calculations used to generate the goals.

### Table 5. Forecasted Recycled Output and Supporting Data

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</tr>
</thead>
<tbody>
<tr>
<td>Sales (M yd²)</td>
<td>98.4</td>
<td>90.4</td>
<td>90.0</td>
<td>88.0</td>
<td>87.0</td>
<td>86.0</td>
<td>85.0</td>
</tr>
<tr>
<td>Discards (M lbs)</td>
<td>356.8</td>
<td>345.2</td>
<td>336.4</td>
<td>328.9</td>
<td>325.2</td>
<td>321.4</td>
<td>317.7</td>
</tr>
<tr>
<td>Recycling Rate (%) annual avg.</td>
<td>8%</td>
<td>14%</td>
<td>17%</td>
<td>24%</td>
<td>26%</td>
<td>26%</td>
<td>27%</td>
</tr>
<tr>
<td>RO (M lbs)</td>
<td>27.6</td>
<td>47.0</td>
<td>51.7</td>
<td>69.0</td>
<td>81.2</td>
<td>83.3</td>
<td>83.9</td>
</tr>
<tr>
<td>Disposal (M lbs)</td>
<td>329.2</td>
<td>298.2</td>
<td>284.7</td>
<td>259.9</td>
<td>244.0</td>
<td>238.1</td>
<td>233.80</td>
</tr>
<tr>
<td>Reduction In Disposal (M lbs)</td>
<td>Base</td>
<td>-31.0</td>
<td>-44.5</td>
<td>-69.3</td>
<td>-85.2</td>
<td>-91.1</td>
<td>-95.4</td>
</tr>
<tr>
<td>Disposal Rate (%)</td>
<td>92.3%</td>
<td>86.3%</td>
<td>83.3%</td>
<td>75.7%</td>
<td>74.2%</td>
<td>73.9%</td>
<td>73.3%</td>
</tr>
</tbody>
</table>

**Disposal Calculations 2018 Plan**

**Historical Trends:** Results to date (in pounds) are summarized below.

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</tr>
</thead>
<tbody>
<tr>
<td>Discards (M lbs)</td>
<td>329M lbs.</td>
<td>321M lbs.</td>
<td>319M lbs.</td>
<td>314M lbs.</td>
<td>310M lbs.</td>
<td>305M lbs.</td>
<td>238M lbs.</td>
</tr>
</tbody>
</table>

* Goal date is 12/31/2022

**Methodology:** This is a new metric required under the Carpet Stewardship Laws with the passage of AB 1158. Based on the statutory definition of disposal outlined above, disposal may be described as the sum of Landfill, CAAF, Cement Kiln, WTE and Incineration. Under this Plan, this is determined to be equivalent to the difference of the total recycled output subtracted from the total estimated discards. This amount is calculated as pounds of disposal. The reduction in disposal is calculated as a percent.
change comparing the pounds of disposal in the current year will be against pounds of disposal in baseline year.

**Formula Used for Calculating Disposal**

\[
\text{Disposal} = \text{Discards} - \text{RO}
\]

The factors used to calculate disposal include:

- **Recycled Output**: material recycled (processed), shipped and sold as Type 1, Type 2, or PC4, as reported by processors, plus carpet tile or broadloom reused.

- **Discards**: See the *Discards* formula on page 27.

**Goal Rationale**: A requirement of the Carpet Stewardship Laws and consistent with CARE’s Plan to keep PCC out of landfills. As recycled output increases in line with goals identified under this plan, disposal is expected to decrease. Actual percent reduction may also differ dependent upon actual sales of new carpet impacting the discards formula.

6. Provide for increasing and reasonably convenient collection opportunities in each county.

One of the key components of any successful recycling program is having systems in place to collect materials efficiently. Residents and businesses that generate carpet discards need both drop-off and pick-up recycling service opportunities locations that are located conveniently close to where they live and do business, such as purchase carpet products. Unlike other material recycling approaches, CARE believes that a strategic combination of private pick-up service as well as public drop-off collection sites play an important role in providing convenient collection under this Plan. Such an approach is based upon industry understanding and preliminary outreach conducted with retailers, indicating that the vast majority of PCC generation is being handled by professional installers as opposed to general contractors or do-it-yourself (DIY) homeowners due to the unique nature of carpet.

Carpet purchases are made sporadically by the average consumer, typically occurring every 7-15 years. This contrasts with other consumer purchases such as beverage containers, for instance, which are a daily consumable item and therefore have a different standard of convenience. After 6 years of increased public and private drop-off sites, the CARE collection program
currently covers 95% of the population of the state of California with reasonably convenient collection sites located within their county, and efforts to increase this rate of coverage are ongoing (see below). This level of coverage goes far beyond reasonably convenient coverage for carpet as required under the Carpet Stewardship Laws. The following list further breaks down the public vs. private coverage:

- 78% of population have access to 1 or more CARE public drop-off sites within their county.
- 90% of population live in a county where 1 or more private businesses have service coverage.
- 95% of the population live in a county where 1 or more CARE public sites or private businesses have service.
- 28% of counties do not have any public or private collection sites within their county, representing less than 5% of the population.

In line with this approach, CARE aims to incentivize and thereby increase both public and private drop-off and private pick-up service opportunities in order to increase the already convenient collection coverage under this Plan. This strategic combination approach is based upon industry understanding and preliminary outreach conducted with retailers, which show that professional installers handle most carpet discards, rather than other audiences such as general contractors or do-it-yourselfers (DIYers). From those conversations CARE learned that the installation of new carpet and related removal of tear-out PCC is frequently sold and/or arranged by retailers as a package with new carpet at the point of sale.

Given the nature of installation and carpet tear-out, it is believed that few consumers are likely to remove and dispose of their own carpet as DIYers. The vast majority of consumers are instead assumed to have the easiest potential for convenient collection service through their retailer/installers who remove tear-out carpet for disposal or recycling at the point of installation. Therefore, ubiquitous localized collection sites for average consumers, as in the case of bottle recycling, is unnecessary, would generate little in the way of additional collection, and the expense incurred would constitute a significant overfunding of the program and a misuse of California consumers’ money.
In today’s environment the CARE Public Drop-off program collects less than 10% of all PCC collections in the state. Further, initial information from retailer outreach conducted in two “regional approach” areas (Sacramento and Los Angeles counties) indicates than on average, approximately 50% of installers return carpet tear-outs to their retailer location following tear-out, while 50% dispose of carpet tear-out at a disposal facility. Increasing access for carpet recycling therefore presently targets retailers and installers as the primary generators of carpet discards via two primary access channels:

1. Increasing access to **private pick-up service** for those installers who return tear-out carpet discards back to their retailer location for disposal, and

2. Increasing access to **public drop-off sites** for those installers who return tear-out carpet discards to a traditional disposal site, such as a landfill or transfer station.

Additional data regarding the relative proportion of consumers or other audiences who may be disposing of tear-out carpet through alternative means (such as curbside, bulky pick-up, or DIY self-haul to disposal sites) will be obtained via the planned convenient collection study underway in 2018. This study will inform CARE’s ongoing efforts to provide reasonably convenient collection and to increase collection convenience. As such data is available, CARE will consider the need for revised goals and incentives should data support a need for additional and/or alternative service strategies.

Private pick-up collection sites are those sites that receive collection pick-up service by private service providers which can be a collector/sorter or processor doing their own collections. These sites tend to be located at larger retailers as a means of lowering retailer disposal costs and/or providing a convenient disposal/recycling option for retailer installers and subcontracted installers. While these private collection sites are not directly funded or operated by CARE, the Program supports this private collection network through collector/sorter subsidies and the AUP process. Therefore, these sites are a primary and fundamental element in the CARE program and convenient collection, and CARE efforts to expand public sites must not interfere with these robust and efficient private sites. CARE estimates that the Public Drop-off cost per pound may be 3-5 times more expensive vs. the private system. Further refinement of these numbers is underway.
Collector/sorters are eligible to receive subsidy funding after PCC is sorted, shipped, and sold/donated for reuse or recycling in line with other requirements of this Plan. Collector/sorters may set their own criteria for private sites, although all collector/sorters receiving subsidies must meet minimum Program requirements as safeguards for participation (see Safeguards section on page 93). Criteria reported by participating collector/sorters may include but is not limited to: appropriate space for trailer, fill a trailer at least once every 30 to 60 days, install primarily residential and apartment carpeting, load trailers with dry carpet only, limit contaminants, and pay service fees within designated terms. Generally, because the private site is paying for the service directly, trailers tend to be monitored somewhat more closely.

To continue meeting the regulatory requirement of providing reasonably convenient collection and increasing collection, the Program has adopted a three-pronged approach: (1) to maintain and expand the current strategic combination of offering a minimum number of drop-off sites per population or geographic area, (2) offering subsidies to collector/sorters to support private pick-up collection service, and (3) to complete a convenient collection study, currently underway, which will inform future convenient collection and set refined goal(s) to be adopted over the course of this Plan to guide CARE in appropriately allocating collection funds to those areas most lacking coverage. The status of collection sites as of the end of 2017 is:

**Drop-off Sites**

Current public drop-off sites: 44 sites, 41 counties served

- Portion of California counties with 1 or more sites: 71% of 58 counties.
- Of counties without a drop-off site, two counties have 0 retailers and populations less than 4,000 people; seven counties have 1-4 retailers and populations 10,000-60,000; and two have 7-10 retailers, with populations just under 100,000. The remaining largest counties will be prioritized for drop-off sites, although efforts will continue to target all counties.
- Shared drop-off sites in proximate counties currently serve at least three counties: Butte, Nevada, Solano.
- Additional sites (6) have already been added in 2018.
Private Pick-Up Service Sites

- Current private sites: 160 sites, 22 counties served.
- Estimated portion of total retailers with private pick-up service: 10% of 1,620 retailers.
- Estimated portion of return retailers with private pick-up service: 20% of 810 retailers are estimated to return tear-out carpet to their stores for disposal (“return retailers”).

The Plan defines the convenience standard as at least 90 percent of the population of California being located in a county with at least 1 carpet collection site. The convenience standard is currently being met by the Program; however, CARE proposes to continue to work toward an increase in convenience of collection sites in both densely populated and rural counties.

The Plan will be informed and modified by the convenient collection study currently underway as we learn more detail relative to PCC management. CARE sets forth the following goals for convenience for the Plan:

- Continue to seek and maintain at least 1 site in each of the 58 counties for which the population is greater than 50,000 by July 1, 2019, with priority on those counties with populations above 100,000 and 4 or more retailers. Considering the population and distribution data, six (6) additional sites are expected to be added by the end of 2018.

- With an eye to avoid conflicts (and increased costs) with CARE-supported private sites via the collector/sorter program, where appropriate, increase the total number of public drop-off or private pick-up sites in more densely populated counties, with the aim of providing 1 site per 500,000 people in any county with a population above 500,000 by December 31, 2021. Actual site locations may be shifted between counties based on interest or available sites. Sixteen counties have populations above 500,000.

- Increase the number of sites with private pick-up service from the roughly 20% of return retailers currently serviced (160 sites) to 33% (267 sites), by December 31, 2021.
To meet the first goal, CARE will continue to work with local agencies and waste disposal facilities to identify a suitable site within each county, subject to the willing participation of a site. In some cases, these contacts have or may wish to decline participation in the Program—citing lack of space, lack of staffing, no interest, or liability concerns. Under such instances, CARE will document efforts to establish a site within that county and then proceed with establishing an alternative site at a retailer/distributor willing to act as a public drop-off location, in a neighboring county or in a more highly populated urban region, or in line with results of the convenience study if available, with the goal of increasing the convenience standard listed above or as may be adjusted following the result of the convenience study. In two counties in which there was no interest by local government, CARE established retail locations (one in each county) that have agreed to serve as public sites, which are open to installers from other retailer locations as well as the general public.

- Primary Public Drop-off Site tactics to achieve increased convenience:
  - Complete planned convenient collection study and refine convenience standard based on results of the study and with CalRecycle and Advisory Committee consultation as outlined in this Plan.
  - Counties without at least 1 drop-off site may be hosted at alternative sites such as retailers, distribution sites, supply houses, or shared drop-off facilities with neighboring counties in the absence of interested disposal sites.
  - CARE has designated up to $500,000 from the collections budget for targeted special collection incentives such as small infrastructure reimbursement up to $15,000 per site and/or labor compensation up to $1,200 per container swap (based on 24 hours/container @ $50/hour) in order to encourage participation in more difficult to secure locations. Labor compensation may be limited to rural counties. These incentives will be offered as a pilot in 2018-2019 and will be re-evaluated following the completion of the convenience study.

To meet the second goal, CARE will use a combination of subsidies, technical assistance, education and outreach, as well as special incentives designed to remove barriers to private service. This goal will be informed by experience gained via a regional outreach strategy and coordination with collector/sorter private collection network and local service providers.
C. PERFORMANCE GOALS AND ACTIVITIES

- Primary Private Pick-Up Site tactics to achieve increased convenience:
  - Provide collector/sorter collection and reuse subsidies and incentives as described within this Plan.
  - Continue and expand regional approach education and outreach tactics with CARE staff and consultant support to provide recycling training materials for installers and recycling consultations to retailers to identify return retailers, suitability for pick-up service, and promotion of local pick-up service providers and collector/sorters.
  - CARE has designated up to $250,000 from the technical assistance budget to provide special incentives for service providers and retailers to support new service set-up as part of a pilot in 2018-2019, with an initial focus on regional approach areas. Incentives may include small infrastructure reimbursement for specialized service containers, lids, etc., retailer rebates up to $1,000 per site for new service initiation (such as $500 for new accounts and $500 for continued service after an initial period); or similar activities to remove barriers to participation.

To meet the third goal, the Program will conduct a convenience study (already underway and reviewed with CalRecycle for input) to consider various factors such as the portion of installers versus contractor/DIYers; current distribution of interest locations such as disposal sites, drop-off sites, private collection sites, carpet retailers, reuse stores, and supply stores; population density; distance or willingness of target audiences to travel to recycle carpet; and if additional drop-off sites are justified. CARE has met with CalRecycle to identify potential factors for evaluation in this study. The research is targeted for completion by the end of 2018, with results available in early 2019, and is discussed further in Section E. Collection System. Based on results of the study, CARE will propose a new goal and other necessary adjustments to the collection approach in an action plan, if deemed necessary, to be initiated by mid-2019 and achieved by December 31, 2021. Further detail regarding the results of the convenient collection study will be shared once the study is complete.

**Performance Goal**: Establish one site per 500,000 persons for any county with a population over 500,000 by the end of 2021, including a minimum of one site per county with a population over 50,000 by July 1, 2019 (exception would be any county unwilling to participate). Support collector/sorters and
local service providers in increasing private pick-up service to 33% of return retailers by the end of 2021. Complete convenient collection study by end of 2018; synthesize results and initiate implementation of any recommended collection program adjustments by mid-2019 to include an updated 2022 goal and annual metrics deemed necessary based on study results.

**Baseline:** In the baseline year, there were no Program-supported drop-off locations in California. In December 2017, the Program has expanded to support 44 public drop-off sites in 41 of California’s 58 counties and 160 private pick-up service sites in 22 counties.

**Historical Trends:** Results to date (in pounds) are summarized below.

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</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>0</td>
<td>0</td>
<td>6 public sites; 6 counties (co.)</td>
<td>14 public sites; 11 co.</td>
<td>23 public sites; 22 co.</td>
<td>33 public sites; 33 co.</td>
<td>44 public sites; 41 co.</td>
<td>TBD after Conv. Coll. Study</td>
</tr>
<tr>
<td>Private</td>
<td>No data</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>~200 private sites</td>
</tr>
<tr>
<td>Study</td>
<td>n/a</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Complete study and review Q1 2019, implement 2019</td>
</tr>
</tbody>
</table>

**Methodology:** The convenience standard was determined by comparing the population of each county based on 2012 census figures; the number of public drop-off and private pick-up collection sites by county based on CARE drop-off program data and as reported by collector/sorters (see Public + Private Collection Map in Attachment 6); and the number of retailers per county based on CARE education and outreach customer relationship management (CRM) database information. Based on initial preliminary results comparing other convenience standards (under Task 1 of the convenience study underway), population density is one potential factor

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3 [https://us-places.com/California/population-by-County.htm](https://us-places.com/California/population-by-County.htm)
which may be considered in creating a proximity-based convenience standard, such as a target number of sites per geographic region.

To begin, the analysis assumes a minimum of 1 site per county with a population over 50,000 in order to provide minimum access to all California residents remains unchanged, such that both urban and rural communities have minimum access to carpet recycling collection. This effort is long-standing and will continue as described throughout this Plan. To estimate a more expansive proximity standard, counties were sorted from largest to smallest and compared with CARE data to quantify the number of CARE public drop-off sites in each county as of December 2017. This revealed that the majority of California’s population (84%) resides within one of the 16 largest counties, each with populations above 500,000. The 9 largest counties have populations above 1 million and together compose 70% of the California population. CARE analyzed potential population standards by dividing the total population in each county against various potential population amounts of 250,000; 500,000; 750,000; and 1 million persons, yielding the minimum number of targeted sites at 1 site per threshold. These results were compared against prior results to date. Given historical challenges in setting up drop-off sites, feedback from participating sites and input from collector/sorters, thresholds below 500,000 persons requiring more than twice CARE’s prior convenience goal of 58 sites, was deemed infeasible. CARE may consider higher thresholds or other approaches should the results of the study support the need for expanded public collection beyond these thresholds. Understanding that more sites may be needed especially in more densely populated urban areas, and that 84% of the population lives within the largest 16 counties, CARE proposes a public site target of 1 site per 500,000, with a minimum of 1 site per county with population over 50,000. These expanded public drop-off sites will increase collection convenience for the roughly 50% of self-haul installers returning carpet tear-outs to a disposal site, as well as for the potential portion of DIY consumers or independent contractors who may generate carpet discards from time to time. Finally, the chosen thresholds encompass >95% of the state’s population.

A second lens considered in the standard looked at the role of private collection sites, compared to the number of retailers in each county. Based on initial retailer feedback obtained in the regional outreach approach in Sacramento and Los Angeles counties, it is estimated that approximately 50% of retail installers return tear-out material back to the store for disposal (equivalent to an estimated 810 retailers statewide). Applying 50%
to the total number of retailers, the number of potential retailers likely to be returning carpet back to their stores was estimated by county. The number of known privately serviced sites in each county was divided by this total to ascertain the approximate percentage of retailers already recycling carpet using participating collector(sorter pick-up service, serving as a baseline. Based on these results it is estimated that approximately 20% of “return retailers,” who return tear-out carpet back to their store, are already recycling (equivalent to ~10% of total retailers statewide). CARE then compared potential percentage thresholds of 25%, 33%, and 50% to quantify the number of additional sites which would be needed statewide at each level.

Historical figures on private collection sites are not known, however, it is believed that the number of sites has generally remained relatively constant at approximately 200 sites. In Quarter 4 of 2017, the closure of one large collector(sorter resulted in a 26% decrease in the number of private sites (from 215 in May 2017 to 160 in December 2017). Given this development, CARE sets a convenience target to increase private service to 33% of the 810 return retailers bringing back tear-out to their facilities, from the current level of 20%. While some of these sites have already regained service with other providers in 2018, an initial focus will be placed on regaining service for interested retailers who previously received carpet recycling service under the prior service provider.

In addition, CARE will support increased private service in regional approach focus areas and by encouraging participating collector(sorters receiving subsidies to expand service. Private site targets may be adjusted over time based on material flow in line with processor demand for collected materials as well as improved data regarding the potential return retailers available for service. It should be noted that not all retailers returning tear-out carpet to their facilities may have sufficient generation, space, or available service providers to obtain collection service. In such instances, retailers will be directed to CARE-supported public drop-off sites for convenient access to carpet recycling. A summary of the convenience standard analysis is presented as Attachment 6.

Measurement for this metric involves counting the active drop-off sites sponsored by the Program in each county, while simultaneously reporting on the number of private pick-up collection sites located in each county. Collector(sorters and processors now report monthly the number of private collection locations as well as the total estimated pounds of gross collections, which are additional indicators of progress toward this goal.
These private collection sites, run by individual retailers and/or collectors, are already in place. Although they are generally not open to the public, these sites are reported to provide recycling opportunities for the approximately 50% of installers returning tear-out carpet to these retailer locations, following installation. As of December 2017, 160 private sites were reported by participating collector/sorters. Of these 160 sites, 22 counties have 1 or more private sites, 5 counties have 10 or more private sites, and 2 counties have 26 or more private sites. Although the number private sites will be tracked and reported by county, the target of 267 private sites (33% of return retailers) is a statewide goal.

CARE will consider both Program-sponsored public drop-off and private pick-up sites when assessing convenience during the study now underway. CARE also intends to determine the percentage of installer versus DIY initiatives, which will influence what is convenient collection for PCC. CARE may consider a single convenience standard or separate convenience standards for installers and residents based on the results of the study, as well as the role of incentives in helping the Program to meet these objectives.

**Goal Rationale:** This goal is driven by statute and informed by practical considerations of the unique recycling demands for a large, bulky material. The purpose of the study is to better inform the Program of how to improve convenient collection of PCC. The current convenient collection standard serves to guide the Program until results of the study are available and refined metrics and/or program approaches can be incorporated, as may be deemed appropriate. Once the study is complete, the results, in consultation with the Advisory Committee per AB 1158 and CalRecycle, will be used to modify the convenience standard as necessary. This is discussed further in Chapter E. Collection System, beginning on page 81.

**7. Increase processor capacity, including processor capacity in California.**

Carpet recycling infrastructure continues to be a growth opportunity both within California and nationwide. Capacity growth will be driven and underpinned by demand. Today, infrastructure outside of California plays a vital role in processing material collected and managed in California, as current in-state capacity is insufficient to manage all post-consumer carpet generated in California. Launched in 2015, the Program’s grant efforts are focused on growing capacity in-state by investing in resources supporting collection, processing, and manufacturing of secondary recycled-content
products. Consistent with Advisory Committee recommendation February 2018 7.1, CARE’s Cycle 1 grant program approved >85% of funds for projects within the State. The Cycle 2 A&B program has a target of 75% to stay in California to further drive expanded capacity.

Market development is also a critical activity as having healthy markets into which to sell products manufactured with post-consumer carpet is essential to a sustainable collection system. Technical assistance is offered to participating collector/sorters, processors and manufacturers with a focus on in-state capacity growth. Infrastructure will need to continue to expand capacity as demand for California post-consumer carpet grows in the years ahead. CARE supports the growth of California’s carpet recycling infrastructure through various strategies, including subsidies, technical support, market and product development activities, education and outreach, and a grants program outlined in this Plan. Examples of specific mechanisms to increase and encourage California capacity include, but are not necessarily limited to: Capital and Product Testing (Cycle A/B) grants, preference criteria for California-based businesses, California Public Agency eligibility under Recycled Product Procurement (Cycle C) grants, in-state eligibility requirement for Reuse/Collection (Cycle M) micro-grants, technical assistance for in-state participants, DoubleGreen™ product promotion, and other tactics as activated over the course of this Plan. In addition, CARE is considering the adoption of an adjusted subsidy payout level in which California-based businesses earn higher incentive payments than those located out of the state. Such subsidy adjustments may be activated over the course of this Plan and consistent with achieving recycled output goals. See Exports on page 79, California Facilities bullet on page 84, and Subsidies starting on page 110 for additional discussion. In addition to these mechanisms, CARE also believes that DGS can play an important role in stimulating market demand among public agencies for recycled-carpet-content products in line with statute. Such product demand increases can help to further support continued expansion of in-state capacity and other goals under this Plan.

**Performance Goal**: Complete capacity study/survey by mid-year 2019; initiate implementation of recommended program adjustments by end 2019 and set 2022 goal based on study results.

**Baseline**: No data is available for the baseline year. CARE began collecting data in a formalized survey in 2016. In 2016, total maximum capacity as self-reported by processors was 326 million pounds/year (163,000 tons/year), or
95% of total California estimated 2016 discards of 343 million pounds (171,500 tons). Accounting for the closure of one facility in 2016 results in a revised capacity of 242 million pounds (121,000 tons), or 71% of 2016 discards. The maximum capacity in California (based on the three California-based processors) is 156 million pounds (78,000 tons), or 45% of 2016 discards. Capacity expansion is expected to continue in 2018 and beyond and is enabled by this Plan.

The total capacity used in 2016 is 186 million pounds/year (93,000 tons) or 54% of 2016 discards. The total capacity used in 2016 in California alone is 73 million pounds (36,500 tons), or 21% of 2016 discards.

**Historical Trends:** Results to date are summarized below. Historical data is based on annual survey to processors, as self-reported by participants, and may not be a reliable source of actual current capacity for California-generated PCC. The planned study under this Plan endeavors to help refine this data collection in years ahead.

In 2011-2013, capacity was reported as the number of collectors in California and number of processors (recyclers) in or outside of California processing California post-consumer carpet. In September 2014, CalRecycle found that CARE's 2013 Annual Report did not provide sufficient information about available recycling capacity. CARE was responsive in working with CalRecycle staff to identify additional necessary information in this area, and to differentiate capacity and throughput for subsequent Annual Reports. CARE conducted an informal survey of participating processors in early 2015 to quantify capacity in terms of the number of pounds (tons) of material, which could be processed using existing infrastructure, in line with FacIT definitions and CalRecycle guidance. The survey involved discussions with participating processors to understand quantities of materials received, number of labor shifts utilized and the opportunities for growth in throughput with the existing infrastructure. At the time this survey was conducted, feedback indicated that participating processors were generally operating at 1 shift per day, which could be increased to up to 3 shifts per day with existing infrastructure. Utilizing collection and recycled output data reported by processors in quarterly subsidy reports, CARE estimated that 2014 existing capacity was approximately three times the reported gross collections. This capacity calculation method was used, along with the number of participating companies, in both the 2014 and 2015 Annual Reports. CARE further refined this process in early 2017 by implementing a
more formalized capacity survey to calculate capacity identified in the 2016 Annual Report.

It should be noted that reported capacity figures reflect capacity, that may be used to support carpet recycling flows both in and outside of California, such that available capacity to support California throughput may fluctuate over time with changes in domestic market PCC supply and demand and individual business practices. For instance, a particular processor may have 100 million pounds of estimated capacity in a given year, but may vary the portion of capacity allocated to California generated material during each month of the year between 0 to 100%, making it challenging to quantify what portion of the 100 million should be attributed as available capacity for the California program. As such, the reported figures give CARE a window into the total domestic capacity, but may not be a true indicator of available capacity for California-generated PCC, exclusively. The table below lists the capacity as it is known today and the goal to complete a more comprehensive study in 2018 to inform and guide progress in the future. Such data will be augmented by the planned capacity study.

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<tr>
<td>No data</td>
<td>No data on capacity in pounds</td>
<td>242 million lbs. (71% of discards) post-closure of large processor; 156 million lbs. in CA (45% of discards)⁴</td>
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<td>Complete study to inform 2022 goal</td>
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**Methodology:** Currently, capacity is evaluated based on the number of in-state and out-of-state participants as well as through an annual survey of subsidy participants in which parties are asked to answer several questions related to current year capacity (in pounds), % of capacity utilized during period, and planned increases for the following year. CARE will work with

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⁴ As reported in 2016 CARE’s California Carpet Stewardship Program Annual Report (page 23), based on participant surveys. This was the first year to report capacity based on formal survey of participating processors.
Program staff and/or contractors to refine survey and analysis of information received, including capacity located in and outside of California. CARE may also consider mechanisms for estimating capacity for various fiber types or portions of PCC in instances where participant capacity is specialized. Goals will be set to increase capacity, including processor capacity in California over the Plan term as required by statute and will report results consistent with the FacIT definitions and format.

**Goal Rationale:** The Program has maintained a long-standing objective to increase infrastructure capacity overall and especially in California, evidenced through examples listed above as well as in subsidy payments which have included a significant portion to in-state participants. However, to date CARE has not set a specific quantifiable goal for this objective, now specified under AB 1158. By conducting a study and engaging in additional discussion with CalRecycle and the new Advisory Committee in 2018, CARE will be able to set meaningful goals informed by reliable data to guide the Program during the Plan term.

Processor capacity is considered to include three key supply chain elements necessary for the recycling of post-consumer carpet: collection/sorting, processing, and manufacture of recycled products. CARE works closely and individually with each member of the supply chain to help expand existing and grow new capacity. A key premise is that the development of new products and markets drive expansion of the supply chain. Such expansion results in a reduction in disposal. CARE has outlined specific recycler-based output goals which serve as a metric for system capacity.

Based on initial estimates using recycled output and Yield goals listed in this Plan, it is estimated that the Program needs between 140 to 240 million pounds of gross collection capacity to meet recycled output goals of approximately 84 million pounds to achieve 27% recycled output by the end of 2022. Using a multiplier of 25% in additional redundant capacity to account for unanticipated equipment failures, processor closures, or other challenges, 175 to 300 million pounds of capacity may be required.

These estimates are calculated by using the annual gross collections needed to generate the recycled output pounds associated with annual target recycling rates (see Goal #4 on page 38) combined with the Yield targets estimated under this plan (see Goal #1 on page 29). For example, in 2022 the target Yield is 60%, while the target recycling rate is 27%, corresponding to 84M pounds of RO. This means that 60% of gross collections in 2022 are converted into RO, while the remaining 40% represents yield loss from the
currently unrecyclable components of the PCC waste stream. The minimum gross collection then is target recycled output pounds (84M) divided by the target Yield (0.60), equal to 140M pounds for 2022. This same calculation is also performed under a scenario in which yield does not increase as expected but instead remains constant at 35% over the life of the plan, thereby providing the higher end ranges for each of these estimates. For 2022, this is equal to recycled output pounds (84M) divided by Yield (0.35), or 240M pounds. An additional 25% is then added to this range, equal to 35M pounds in the case of 60% yield and 60M pounds in the case of 35% yield, resulting in an estimated minimum capacity range of 175M to 300M pounds. This is equivalent to approximately 2-4 pounds of capacity for every 1 pound of recycled output.

In 2016, the Program produced 38 million pounds of recycled output (11% of discards) utilizing an estimated capacity of 186 million pounds, or 4.9 pounds of capacity for every 1 pound of recycled output.

These figures are presented as initial estimates of capacity, which require further analysis. CARE recognizes the complexity of theoretical capacity, facility specializations (ability to process a range of fiber or material types vs. specific types), the number of work shifts activated at each facility, material demand variability for non-California versus California material by various participants in the system, and other market factors outside of CARE’s control. Considering these additional factors, the actual capacity needs may be higher or lower than those outlined above. The planned 2018 capacity study will enable CARE to more precisely estimate this need, determine whether or not capacity is yet sufficient and set appropriate goals to increase or maintain capacity as may be necessary based on the data. The Program will consider results of this study to guide specific actions beginning in 2019.


Recycling carpet means processing or manufacturing discarded carpet from consumers into usable or marketable feedstocks and products. Recognizing that CARE hit a Program high of 16.3% in Q1 2017, a goal of 27% by 2022 represents a 62% increase over 5 years. Given the challenges faced in the current markets and the response time required to implement new technology and/or product development, this goal represents aggressive growth. Nevertheless, CARE is committed and believes it can meet that goal. However, until we have greater knowledge and confidence of the incentives
and investments that drive market forces, it is not prudent to set any goals beyond the current ones.

In response to Advisory Committee recommendation February 2018 2c-1, the ability to set goals this far in advance is a well-established challenge. As Section 42972.2(b) of AB 1158 states: “No sooner than January 1, 2020, and no less frequently than every three years thereafter, the department shall review and may adjust the recycling rate and program goals set forth in paragraph (2) of subdivision (a) of Section 42972, based on information included in carpet stewardship plans and annual reports, other information provided by carpet stewardship organizations, and economic and any other relevant information.” Since the statute stipulates that CalRecycle will set goals after January 1, 2020, this target is open to adjustment consistent with the provision of the statute and economic and other relevant information as it develops.

It is also worthy of note that AB 1158 states: SEC. 4. Section 42972.2 is added to the Public Resources Code, to read: 42972.2. (a) The Legislature hereby declares that it is the goal of the state to reach a 24-percent recycling rate for postconsumer carpet by January 1, 2020, and to meet or exceed that rate continually thereafter. CARE’s 27% recycling rate is consistent with the statute.

**Performance Goal**: Achieve a 24% recycling rate for post-consumer carpet by January 1, 2020, and any other recycling rate established by the Department over the term of this Plan. Future goals will be set by CalRecycle per PRC 42972.2(b).

**Annual Goals** (end of year): 2018 (17%), 2019 (24%), 2020 (26%), 2021 (26%), 2022 (27%)

**Baseline**: In the baseline year, recycling rate was 8%.

**Historical Trends**: Annual results to date are summarized below.

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<td>8% of discards</td>
<td>10%</td>
<td>12%</td>
<td>12%</td>
<td>10%</td>
<td>11%</td>
<td>27% of discards</td>
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Since Q3 2011, when this program began, the recycled output has been tracked and reported. The following chart serves as the historical record of both gross collection rate versus discards and recycled output pounds expressed as a percentage and called the recycling rate of total discards.

**Figure 2. Gross Collection and Recycling Rates**

![Chart showing gross collection and recycling rates from 2011 to 2018](chart.png)

**Methodology:** The recycling rate is measured by taking the sum of total recycled output pounds inclusive of the total pounds of reuse, divided by the total discards. Because reuse is considered a preferred management strategy higher on the waste hierarchy, the Program will continue to include the pounds reused within the recycling rate calculation as previously proposed within Addendum #3, approved January 2016. Details on how the denominator is derived may be found on page 27.

**Formula Used for Calculating the Recycling Rate**

\[
\text{Recycling Rate} = \frac{\text{Recycled Output}}{\text{Discards}}
\]

The factors used to calculate the recycling rate include:

- **Recycled Output:** material recycled (processed), shipped and sold as Type 1, Type 2, or PC4, as reported by processors, plus carpet tile or broadloom reused.

- **Discards:** See the *Discards* formula on page 27.
Goal Rationale: This goal was originally set by CARE based on an analysis of the existing recycling capacity and anticipated growth in recycling capacity, along with expansion of products containing PCC and expansion of their markets. The estimate has been further refined in support of this plan using several modeling tools and participant estimated projections as outlined in Goal #4 Increase weight of recycled post-consumer carpet and G. Financing Mechanism. The original goal was meant to be achieved by the end of 2020. Nonetheless, this Plan has been updated to adjust to this new statutory requirement and shortened timeline through increased investment in subsidies, grants and other incentives with the aim of stimulating the marketplace in line with this ambitious goal.

Source Reduction Reporting

PRC §42972(a)(3) states: “On or before September 30, 2011, a manufacturer of carpets sold in this state shall, individually or through a carpet stewardship organization, submit a carpet stewardship plan to the department that will do all of the following… (3) Describe proposed measures that will enable the management of postconsumer carpet in a manner consistent with the state's solid waste management hierarchy, including, but not limited to, source reduction, source separation and processing to segregate and recover recyclable materials, and environmentally safe management of materials that cannot feasibly be recycled.”

CARE interprets source reduction for the purposes of this Plan as reducing the amount of discarded carpet generated (PCC). Key elements of source reduction CARE will address under this Plan include:

- Carpet reuse (for CARE).
- Carpet reuse (for Carpet Mills and secondary manufacturers).
- Education & outreach to installers.

In addition to the above actions that CARE will take to address source reduction under the Carpet Stewardship Laws, the carpet industry is engaged in the following
activities, as described further below, that may also increase source reduction beyond the requirements of the statute:

- Increasing durability
- Light-weighting
- Using recycled content
- Reducing material use
- Providing take-back programs

The statutory requirement addressing “source reduction” in PRC Section 42972(a)(3) is specifically directed at “the management of postconsumer carpet in a manner consistent with the state’s solid waste management hierarchy,” of which source reduction is a component. The purpose of Section 42972(a)(3) is to enable the proper management of post-consumer carpet (PCC) rather than the management of carpet manufacturing. Indeed, the Carpet Stewardship Laws clearly regulate the recycling of postconsumer carpet. See Pub. Res. Code §§ 42970 (“The purpose of this chapter is to increase the amount of postconsumer carpet that is diverted from landfills and recycled into secondary products or otherwise managed in a manner that is consistent with the state’s hierarchy for waste management practices pursuant to Section 40051.”); 42971(c) (CARE was “established to increase the reclamation and stewardship of postconsumer carpet”); 42971(k) (“‘Postconsumer carpet’ means carpet that is no longer used for its manufactured purpose.”). Thus, the focus of the statute and this Plan is on the very important step between carpet on the floor and before carpet becomes waste. Along with source separation and processing, the management of that step has a source reduction component. Action at this point in the process to reduce postconsumer carpet that needs to be recycled or to divert post-consumer carpet from becoming part of the waste stream will result in a net reduction in the generation of solid waste. It is in that context that CARE will focus its source reduction efforts going forward.

CARE will track reuse as the Program’s primary source reduction metric under this Plan (see Goal #3, Reuse, page 36). In addition, the Program will track and report new source reduction metrics across the industry based on results of an annual survey of Carpet Mills and secondary manufacturers, beginning with the 2018 annual report.

An element of source reduction previously has been measured in part as the average weight per square yard of carpet, which remained stable at 4.2 pounds per square yard from 2011 to 2015 and increased to 4.39 pounds
per square yard by August 2016. A challenge with this approach is that carpet tile, which typically has a higher recycling yield once collected than broadloom carpet, weighs more per square yard (almost twice as much). As carpet tile gains market share, particularly in the commercial sector, the average weight of carpet may increase. At the same time, light-weighted broadloom carpet styles such as those sold as “new home builders” and “multifamily basic” in markets with anticipated shorter lifecycles may be losing market share to other hard-surface flooring by customer selection as well as customer deselection due to pricing considerations such as the carpet recycling fee in California. This shift may have the effect of reducing the amount of lighter-weight carpet on the market, also contributing to an increase in average weight per square yard of carpet even as the product itself incorporates light-weighting principles of source reduction. Accordingly, CARE now considers this metric to not be helpful in assessing adoption of source reduction strategies by individual Carpet Mills participating under the Plan. CARE also notes that for the above reasons, source reduction and the goal of structuring grants and subsidies to incentivize highest recyclability may not always be complementary.

CARE has developed the below list of source reduction strategies that will be adopted and reported annually by participating Carpet Mills and secondary manufacturers. This list may be modified and refined over time in consultation with CalRecycle, in line with accepted source reduction standards to reduce material use:

- **Carpet reuse (for CARE)** – Providing a second life for gently used carpet tile or broadloom carpet. This is a key strategy for source reduction under the CARE Plan (see Goal #3, Reuse, page 36).
  - Reuse avoids, or delays consumption of new carpet or other materials used in manufacturing, by giving an extended life to gently used carpet products, especially carpet tile. Some opportunities also exist for broadloom, such as carpet used for short-term applications such as trade shows and/or builders’ basic installations, which may be replaced over short time periods.
  - Cleaning requirements – Currently no cleaning requirements are placed on carpet reuse, and no collector/sorter participants are known to offer these services. It is not currently known if cleaning services are offered by receiving reuse facilities (such as Habitat for Humanity and Goodwill), although end use
preparation. CARE recipients are likely to be cleaning these materials upon installation. CARE will consider the potential role for cleaning methods, requirements, or recommendations in the reuse study planned for 2020, which is intended to identify opportunities for and barriers to increasing reuse. CARE promotes the Carpet and Rug Institute (CRI) cleaning best practices for installed carpet as a method of extending the useful life of carpet products.

- **Carpet reuse (for mills and secondary manufacturers)** – Providing a second life for materials used in the manufacture of products. Reuse avoids, or delays consumption of new/virgin materials used in manufacturing, by giving an extended life to gently used, surplus, or imperfect product inputs, packaging, or other materials. The education and outreach efforts to facilitate reuse for both tile and broadloom will continue and serve as a primary effort toward source reduction under the Plan.

- **Education and outreach to installers** – A fundamental issue in carpet recycling is contamination of the PCC before it reaches the recycler. By educating installers on how to properly handle PCC as it is being torn out and prepared for delivery to or pick-up by the recycler, much PCC that would otherwise be destined for landfill can be preserved in a state that is suitable for recycling. This includes avoiding contaminating the PCC with moisture, paint, adhesives, drywall, metal, and other foreign contaminants. CARE has a robust education and outreach program underway, including training and support materials for installers on the proper handling of post-consumer carpet. While this approach is not considered source reduction, it is an important element in enabling recycling which does facilitate the use of less virgin material in the application area.

The following items are additional efforts being pursued by industry that could have a positive impact on source reduction beyond the Carpet Stewardship Laws and the commitments under this Plan. CARE will monitor and report on these as information is available and warranted.

- **Increasing durability** – Strategies that support longer lifecycles of carpet products or otherwise increase longevity of the product’s useful life. Increased durability reduces the need for rapid product turnover, may result in decreased sales as consumers delay carpet
replacement, and may have a positive effect on brand allegiance as products are associated with long-lasting durability.

- **Light-weighting** – Strategies that reduce the weight per square yard of carpet products, especially for products intended or expected to be turned over more rapidly, such as builders’ basic product lines. Given these shorter-term application areas, light-weighting of these products would not degrade the useful life of the product, even as light-weighting is adopted. Strategies also include approaches that achieve light-weighting advances without reducing durability, although it is recognized that light-weighting and increasing durability may be difficult to achieve at the same time.

A favorable trend on this point is reduction in carpet tile weight during the last several years, although it remains heavier per square yard than broadloom carpet. Another favorable trend includes a company that is developing an innovative backing system that reduces the number of materials used in the manufacture of carpet to greatly facilitate both source reduction as well as the recycling of both PET and nylon carpet. This new technology, launched in 2016, offers mono-polymer and easily separable dual-polymer systems that eliminate calcium carbonate fillers and latex adhesive and thus contribute to significant increases in source reduction over the coming years—as these components may compose up to 40% on average by weight per square yard of broadloom carpet. As advances like these take hold in Carpet Mills, results will benefit source reduction, processing efficiency, recycling yields, and overall recyclability of carpet over the long term.

- **Using recycled content** – Key source reduction strategy as virgin material use is avoided; this strategy also supports market demand for recycled output supporting other Program goals. Recycled content may be post-industrial or post-consumer as each reduce use of virgin materials. Participants are encouraged to increase post-consumer recycled content. Two types of recycled content are recognized:
  - *Recycled carpet content* – Recycled content derived from recycled carpet; use provides a dual benefit, also supports closed-loop carpet-to-carpet, increased recyclability (generally nylon).
o Recycled content (non-carpet) – Recycled content derived from other (non-carpet) recycled materials such as but not limited to bottle flake (generally PET); reduces virgin inputs.

- Reducing material use – Minimizes the amount of material used in product manufacture. May include several strategies:
  o Light-weighting (described above).
  o Material composition – Reduce or simplify the number and types of material components composing the product such as the mono-polymer or dual-polymer approaches described above (e.g., going from 5 components to 2 components); this approach may also benefit increased recyclability. This strategy may result in increased use of single material resources, while overall the material composition is simplified to support higher recyclability.

- Providing take-back programs – Take-back programs can support source reduction as collected products are upcycled as feedstock in carpet-to-carpet or other closed-loop secondary products, thereby displacing virgin resource use. Companies with take-back programs generally include clear back-labeling, easy-to-find information on websites, or other promotional/sales tools to facilitate and ease collection for recycling. It is common for mills to use contracted recyclers to facilitate takeback support for economic and logistical reasons.
D. Solid Waste Management Hierarchy

The proposed measures in this Plan enable the management of post-consumer carpet (PCC) in a manner consistent with California’s solid waste management hierarchy and the requirements of the Carpet Stewardship Laws. The elements of the solid waste management hierarchy for post-consumer carpet are shown in Figure 3 and described further below.

Figure 3. Solid Waste Management Hierarchy for Carpet

- Source Reduction
- Reuse
- Recycling
- CAAF or Kiln*
- WTE**
- Disposal

*CAAF: Carpet as Alternative Fuel or cement kiln fuel/feedstock
**WTE: Waste-to-Energy

The Plan is designed to increase reuse, recycling, and reduction in disposal over time and to thus reduce the amount of post-consumer carpet that must be disposed by landfilling. It is designed to ensure that the preferred approaches of source reduction, reuse, and recycling handle more materials and grow at a higher rate than other forms of post-consumer carpet.
management, including energy recovery (CAAF, kiln, and WTE), over the long-term. The Plan places emphasis on carpet recycling. In addition, carpet cushion that is often collected along with carpet recycling is tracked for informational purposes by the Program. While carpet cushion is not considered in the recycled output calculation, it clearly contributes to reducing the flow to California landfills equivalent to approximately 2 pounds per square yard, providing an additive benefit in supporting California’s overall reduction in disposal and recycling goals. The materials management methods in the solid waste management hierarchy are described further below.

CARE’s position on any form of combustion or landfill under the Carpet Stewardship Laws may be summarized as follows:

- CARE has never paid any subsidy for landfilling PCC and has no plans to do so.
- CARE has never paid any subsidy for incineration of PCC and has no plans to do so.
- CARE has never paid any subsidy for the use of PCC for WTE and has no plans to do so.
- CARE discontinued payment of subsidies to CAAF and Kiln energy recovery effective January 1, 2018.

CARE continues to distinguish cement kiln use from WTE for the following reasons: 1) kilns will continue to operate and thus demand fuel, 2) kilns will buy calcium carbonate strip-mined from the earth as a key raw material to make Portland cement, 3) when PCC is used in a kiln, there is efficient recovery of the caloric value of the PCC, 4) the residue that results is a raw material and as such is completely incorporated into the cement produced, 5) there is no ash left for disposal and 6) the emissions profile in most cases is as good or better than existing kiln operations. In addition, where PCC is collected there will be from 8-15% of material which cannot be recycled for a variety of reasons. The only choice for this material is to send it to landfill or a kiln or WTE.

Analysis of subsidy payouts for 2015 and 2016 for CAAF and kiln show CARE paid approximately $104,000 in 2016, which represented a 50% reduction from 2015. This level of subsidy support represents approximately 1% of all subsidies paid in 2016. The Program has seen a general reduction in total energy recovery since 2014. As long-term market adjustments are
adopted including increased design for recyclability, closed-loop and upcycled product development, improved recycled output processing technology, and increased recycled product demand, it is anticipated that energy recovery as a portion of total discards will decrease as recycled output increases. In the short term, CARE anticipates that energy recovery will continue to play a minor role in the disposition of portions of the PCC waste stream which cannot otherwise currently be diverted given available technology and markets. To encourage development of value-added outlets, CARE discontinued subsidy support for both CAAF and kilns for energy generation beginning January 1, 2018.

CARE does support the development of alternative technology that can convert PCC into basic chemical building blocks and/or fuel applications. It is recognized that multiple solutions and outlets are required to consume the myriad different polymeric materials and their blends, and that it will be many years before the complete implementation of carpet redesigned for recyclability enters the marketplace and at least 30-40 years before the legacy residuals flow through the waste stream for end-of-life disposition. As such, CARE will continue to monitor developments in this area.

Source Reduction

CARE has developed the below list of source reduction strategies that will be adopted and reported annually by participating Carpet Mills and secondary manufacturers. These activities, as described in the previous section on Source Reduction Reporting starting on page 63, may be modified and refined over time in consultation with CalRecycle, in line with accepted source reduction standards to reduce material use:

- **Carpet reuse (for CARE)** – Providing a second life for gently used carpet tile or broadloom carpet.
- **Carpet reuse (for mills and secondary manufacturers)** – Providing a second life for materials used in the manufacture of products.
- **Education and outreach to installers** – By educating installers on how to properly handle PCC as it is being torn out and prepared for delivery to or pick-up by the recycler, much PCC that would otherwise be destined for landfill can be preserved in a state that is suitable for recycling.
The following items, as also described in the previous section on Source Reduction Reporting, are additional efforts being pursued by industry that could have a positive impact on source reduction beyond the Carpet Stewardship Laws and the commitments under this Plan.

- **Increasing durability** – Strategies that support longer lifecycles of carpet products or otherwise increase longevity of the product’s useful life.

- **Light-weighting** – Strategies that reduce the weight per square yard of carpet products, especially for products intended or expected to be turned over more rapidly, such as builders’ basic product lines.

- **Using recycled content** – Key source reduction strategy as virgin material use is avoided; this strategy also supports market demand for recycled output supporting other Program goals. Recycled content may be post-industrial or post-consumer and include either recycled carpet content or other recycled content (non-carpet).

- **Reducing material use** – Minimizes the amount of material used in product manufacture, which may include light-weighting, changes in material composition, and other strategies.

- **Providing take-back programs** – Take-back programs can support source reduction as collected products are upcycled as feedstock in carpet-to-carpet or other closed-loop secondary products, thereby displacing virgin resource use.

In addition to the actions listed above, CARE will directly undertake the following actions to support source reduction:

- Publish or link to individual Carpet Mill and secondary manufacturer sustainability reports, as reported by participants.

- Search out and promote sustainable technologies for carpet design (e.g., Niaga backing system, Aquafil N6 depolymerization technology).

- Use micro-grants for student competitions to stimulate innovative thinking for design of sustainable soft floor coverings and source reduction activities. (See Grants section on page 145 for additional details.)

- Offer micro-grants and subsidies to support collection and reuse.
• Complete a study on reuse to identify barriers and opportunities for increasing reuse quantities. The study will include research on cleaning and performance perspectives or other barriers that may be impeding reuse uptake and will be completed in 2020.

• Track and report on back-labeling or other industry initiatives as adopted over the term of the Plan.

Over many decades, the carpet industry has worked to maximize the performance of carpet based on a variety of factors including face fiber type, cross-section, construction (e.g., twist, face weight, pile height), backing system, adhesives, and treatments. Redesign continues to be driven by meeting customer design specifications, durability, and raw material reductions. Such efforts aimed at achieving an acceptable balance of these objectives are continuing daily at Carpet Mills. It can typically take 5-10 years to bring a new product design to market.

There may be overlap between source reduction at Carpet Mills and design-for-recyclability practices. Some design-for-recyclability practices may improve source reduction, while others may not. Taking a systems approach, CARE will combine the source reduction and design-for-recyclability annual surveys to capture data on both of these objectives. This approach has an added benefit of encouraging participants to consider both source reduction and recyclability at the point of design. CARE’s new closed-loop annual survey will help quantify industry investment in closed-loop and design for recyclability (see Closed-loop Recycling section on page 74 for additional description). Within the closed-loop survey, CARE will ask questions related to source reduction and report cumulative or summarized results annually within the Program annual report, as described above.

At the consumer level, source reduction can be addressed through education and outreach pertaining to efforts taken to help extend the life of carpet through proper maintenance, cleaning, and carpet care practices. CARE promotes CRI best practices in this area through website and retailer communications. This initiative will be developed in 2019 for retailer roll-out in 2020.

Further, as a part of CARE’s micro-grant programs, CARE will provide specific technical assistance via staff and/or contractor outreach to drop-off sites, collector/sorters, and reuse organizations, such as Habitat for Humanity and The ReUse People, in an effort to solicit grant proposals that further help to facilitate the reuse of carpet and carpet tiles determined to
have long functional life remaining. Strategic planning for the development of grant outlines will begin in 2019 to ensure submission of fundable grants in 2020. This effort will be further refined following the findings of the 2020 planned reuse study.

While it is generally expected that California businesses, collector/sorters, processors, and manufacturers are motivated to save money by reducing waste and related waste disposal costs, as well as comply with the requirements of AB 341 (mandatory commercial recycling), CARE always includes in their Grant Terms & Conditions a section titled “Reduction of Waste” with reference to the California waste management hierarchy. These requirements for all grantees will continue under this Plan. CARE will also continue to expand awareness of the waste management hierarchy and source reduction to all businesses receiving future funds from CARE while seeking to support closed-loop recycling.

Closed-loop Recycling

Most commercial carpet tiles, which represent about two-thirds (~65%) of commercial sales, and approximately 12% of overall carpet sales, are 100% recyclable and are being recovered and recycled today, representing approximately 3% of total Program recycled output in 2016. Carpet tile sales are also finding limited, but growing interest in the residential sector. Although most carpet tiles are recycled into the backing of new tile, as opposed to face fiber, carpet tile represents one of the most readily available opportunities for carpet-to-carpet recycling. A new facility coming on line in mid-2018, will focus specifically on the recycling of N6 from broadloom carpet. The intent is to expand both N6 broadloom fiber recovery and tile processing for recycling in California beginning in 2019.

Closed-loop recycling (carpet-to-carpet) is particularly difficult due to the nature of the fiber-spinning operation (requiring extremely pure polymer). This process was practiced on a large scale by Evergreen Augusta via depolymerization (also called depoly). The plant was shut down in 2015 due to mechanical, safety, and economic reasons and will not be restarted. The closure of Evergreen Augusta resulted in a significant reduction in domestic recycling capacity and in the lower recycled output rate in 2015. Depolymerization of nylon 6 (N6) is practiced on a smaller scale by two companies in North America that continue to struggle with both economics and quality issues.
One major carpet manufacturer has just introduced Air.O carpet. This product is composed of 100% PET so there is no polypropylene backing, no latex adhesive, and no calcium carbonate. The product is completely recyclable and is designed for sustainability. The same basic technology is applicable to nylon face fiber carpet through a thermal separation mechanism. A nylon carpet system is expected to be introduced in the next 1-2 years. Development of this novel technology took more than a decade to bring to market. Other industry efforts are underway to improve design for recyclability, but due to competitive reasons, cannot be disclosed in this Plan. Another fiber producer has just committed to recycling N6 in Phoenix with plans for additional capacity in California in 2019. Using proprietary depolymerization technology, Aquafil has a closed-loop process for carpet to carpet. CARE continues to support the development of closed-loop and other end-market products and technologies.

Since the introduction of such newly designed products will take time to penetrate the market, CARE will monitor the sales of those products and, beginning in Year 4 of this plan, CARE will determine the timing, based on estimated lifespan of new products, to begin the education process with retailers and installers for recycling the new products.

Incorporation of recycled carpet content back into face fiber remains challenging. Processing of PCC polymer into a form pure enough to be spun back into fibers continues to be both economically and technically demanding. CARE has been scanning the global technology sphere in search of any technical approach that is applicable to carpet. CARE’s list of identified technologies now contains more than 60 options, only a few of which are deemed to be both technically and economically viable and perhaps only one or two are closed-loop technologies. Most options are still in the testing and qualification stage and, if successful, may be a minimum of three to five years away from entering the market. CARE will continue to support and follow these developments, including looking for ways to encourage and accelerate bringing these technologies to California through efforts including grants, consultation, networking with key candidates within the state, and facilitating meetings with GoBiz and RMDZ. Please refer to the Data Collection and Industry Collaboration section on page 169.
Reuse

Since 2015, the Program has offered an incentive to support the reuse of carpet tile and broadloom carpet. Reuse is defined as the donation or sale of recovered carpet back into the market for its original intended use. The reuse of recovered carpet retains the original purpose and performance characteristics of the carpet. CARE does track recipients of donated or resold carpet and carpet tile for verification under the AUP protocol.

Carpet tiles are considered to offer the best opportunities for reuse, as they are designed for sustainability and modular for easier installation to spaces of various sizes and shapes, although subsidies are also available for broadloom carpet. CARE has placed a high subsidy on the reuse category, consistent with the waste hierarchy, and will work to expand the reuse category through education and outreach efforts to retailers, installers, and building owners. In addition, a new collector/sorter carpet tile subsidy pilot launched in January 1, 2018, to drive both reuse and recycling of tile.

Carpet reuse represents a preferred management approach in line with the waste hierarchy. Reuse is also counted toward recycled output and reduction in disposal. Broadloom and tile reuse pounds are tracked as separate line items from recycled output. The Program will continue work with recyclers to reach out to charitable organizations or other reuse resources, such as Habitat for Humanity, to promote carpet reuse.

The Program provides incentives to support reuse, as described starting on page 81 in Chapter E. Collection System. Market development activities and education and outreach efforts may also support reuse. These efforts are designed to increase reuse quantities by 100% by December 31, 2022, compared to 2016.
Recycling

To maximize impact in achieving Program goals, the funds generated from the assessments on carpet sales will continue to be primarily directed toward increasing carpet recycling. The Plan is designed to promote the recycling of post-consumer carpet back into new products as the top priority. Secondary product subsidies are currently focused on the use of non-nylon (PET/PTT and PP) materials used in manufacture of secondary products, but may be adjusted over the course of this Plan based on the needs of the Program. A new Tier 2 nylon 6 pilot subsidy was launched in Q3 of 2017. Nylon 66 will be added as well under this new Plan. Recycling and related subsidies are described further in Chapter F. Market Development. These efforts are designed to increase the recycling rate to 24% by January 1, 2020 and 27% by December 31, 2022.

As noted in the Closed-loop Recycling section on page 76, closed-loop recycling (carpet-to-carpet) is particularly difficult due to the nature of the fiber-spinning operation requiring extremely pure polymer, and the economics to date have proven challenging.

Current recycling processes rely on mechanical separation of the individual components of the carpet. Each of these resulting materials must be “cleaned up” to remove contaminants to be suitable for use in secondary products. Current technology cannot economically remove this residual contamination to a level to enable the fiber and the recovered calcium carbonate filler (PC4) to be suitable for carpet-to-carpet use, though other markets are available. While PET and PC4 from PCC continues to be lower value and more difficult materials to move in secondary markets, CARE is supporting these markets and expects demand for both materials to grow as new product development grows in the future.

- Twelve years ago, work began on the use of PCC in plastic lumber. CARE has supported those efforts and in late 2016, Fiberon announced the start-up of a new facility in Mankato, Minnesota. Estimated demand for PET fiber was approximately 24 million pounds of new recycled output in 2017, which equates to over 50 million pounds of new PET PCC consumption that must be processed. Start-
up problems resulted in limited volume in 2017, but resolution has now resulted in growth of fiber consumption in early 2018.

- American Fiber Cushion, with a Program 1A grant from CARE, started up their new hybrid fiber cushion plant in late 2016. This hybrid pad is 100% recyclable by design. In 2018, that plant will be consuming PET PCC from California. Recent developments indicate this plant will likely use less fiber than anticipated, but it is still in pad production using California PCC.

- Another Cycle 1A grant helped support CLEAR (a.k.a. Circular Polymers) in establishing its new processing facility in Lincoln, California, which is growing as a northern California collector, processor, and Tier 2 manufacturer increasing both in-state capacity as well as distribution, with additional expansion plans set for 2018.

- As a recipient of the PC4 subsidy added in 2015, and CalRecycle’s Recycled Fiber, Glass and Plastic (FGP1) grant program, L.A. Fiber Company in Los Angeles continues to expand its manufacturing of products containing PC4 and PCC, which are being purchased within California.

- Sierra Mat in Modesto launched the first DoubleGreen™ products, produced by combining recycled rubber with PC4, both from California, in the form of floor mats and wheel stops. This was accomplished with the help of a Program 1A grant.

- More recently Aquafil has started-up their new Phoenix operations to consume N6 PCC which will be depolymerized and reconstituted back into virgin N6 for closed-loop product of nylon carpet. Plans are already well underway for a second plant to be located in the Sacramento area. Start-up is expected in 2019.

CARE has worked closely with all these companies in an effort to grow capacity, jobs, and products supported by grants, incentives and facilitation for market and product development. The Plan continues and builds on these successful efforts that are now proven to be working in the current market environment.

These new capacity increments, while somewhat delayed from original dates, are now coming on line and are part of this Plan’s strategy to increase capacity and products. As with any new business, new carpet recycling
ventures require extensive time to allow for investment analysis, fabrication, shipment, installation, start-up, and process refinement. Additional new technologies are also under development and expected to continue the capacity and product growth over the next several years. (See the Closed-loop Recycling section on page 74 for further information on new technologies.)

### CAAF or Cement Kiln Fuel/Feedstock

For wastes that cannot feasibly be recycled or reused, environmentally safe management through Carpet As Alternative Fuel (CAAF) or cement kiln fuel/feedstock is an option under this Plan, as CARE considers CAAF and Kiln to be a preferable higher use to landfill, incineration, or other disposal. CARE will continue to track energy recovery including CAAF, Kiln and WTE as diverted from California landfills. However, CAAF and Kiln pounds are not counted as recycled output or as a reduction in disposal. To encourage, higher better uses beyond CAAF and Kiln however, beginning January 2018, the Program no longer provides a subsidy for carpet to be diverted through CAAF or as a fuel in cement kilns and consistent with AB 1158.

### Exports

Pounds of whole carpet material reported as exported are also considered as a reduction in disposal from California landfills. The Program encourages materials to be managed in California or domestically, as only such material is eligible to receive subsidies under this Plan. Whole carpet exported internationally, while eligible for the collection/sorted subsidy, are not eligible for Program subsidies for processing or Tier 2 manufacturing. Other program incentives including grants prioritize California-based businesses over domestic applicants within grant criteria. Over the term of this Plan, CARE anticipates the potential for a reduction in subsidy payout amounts for businesses located outside the state of California – consistent with achieving Plan goals. Such a reduction is intended to encourage and support California-based businesses and California jobs, while also providing a time frame for in-state capacity to grow beyond current levels presently dependent upon domestic processing and manufacturing located outside the state.
**Waste-to-Energy**

Under this Plan, Waste-to-Energy (WTE) is considered preferable to landfilling and incineration, but is not supported by subsidies or other financial incentives under the Plan. CARE has never paid any subsidy for the use of post-consumer carpet for WTE and has no plans to do so. CARE will continue to track energy recovery including CAAF, Kiln and WTE as diverted from California landfills. However, WTE pounds are not counted as recycled output or as a reduction in disposal.

**Landfill, Incineration, or Other Disposal**

Landfilling, incineration, and other forms of disposal are considered the lowest level on California’s solid waste management hierarchy, and the Plan does not support their use for disposal of post-consumer carpet. Incineration of post-consumer carpet is prohibited under this Plan for California-based business. Some businesses located outside of California may use incineration, although it is discouraged. Any out-of-state incineration will be tracked through regular reporting processes, although no subsidies are provided for pounds managed through incineration. Historically, the Program has no reported incineration by any Program participant to date. No subsidies or other financial incentives are provided for landfilling, incineration, or other forms of disposal.
E. Collection System

This chapter describes the system used to collect and properly manage post-consumer carpet, including collection, reuse, and recycling. The Plan includes strategies and tactics to increase collection of post-consumer carpet and improve throughput of recycled output, including incentives, subsidies, grants, and education and outreach. Chapter F. Market Development describes subsidies and other assistance that supports the system of collection, processing, and manufacturing into secondary products. Chapter H. Education and Outreach (E&O) describes the E&O activities that support the collection and recycling system for post-consumer carpet in California.

Collection systems are supported through three primary efforts:

- Subsidized service for drop-off sites in each California county.
- Subsidies and support for collector/sorters, processors, and manufacturers of materials made from post-consumer carpet.
- Carpet Manufacturer-managed project collection on large commercial projects.

This chapter first provides an overview of the system for collecting and managing post-consumer carpet in California. Next it describes the system of drop-off/collection sites. Then it describes how the Plan supports recycling and reuse activities across the sectors of the collection and processing system.

Consistent with Advisory Committee recommendation February 2018 4-2, the information in this section expands on the collection narrative. The collection program anticipates increased expenditures as the Program continues to add drop-off sites, increase the frequency of services (number of container swaps per unit of time), and increase the weight or efficiency of each average load through continued technical assistance. E&O promotion will increase collection at drop-off sites as more retailers, installers, and DIYers become aware of each drop-off site location.

In 2018, CARE anticipates adding 14 additional sites for a total of 58 sites, targeting additional sites in urban areas with populations above 500,000 and providing additional targeted incentives to support both public and private
collection site increases in line with the convenience standard outlined in Goal #6, page 45. These Program enhancements may increase the estimated collection total cost from $700,000 in 2017 to $1.4 million (the result of more sites, equating to more trailer rentals, longer hauls, more swaps, more pounds, and special incentives). This increase takes into consideration that many sites did not come onboard until later in 2017 and, thus, did not reflect full-year costs. Lower than expected collection rates in early 2018 and sluggish response from remaining sites have resulted in new strategies being incorporated to increase convenient collection opportunities within the previously allocated budget for 2018 and 2019. Additional budget is added to the latter years of the Plan to accommodate anticipated increases under the standard. Additional sites may be added in later years of the Plan based on results of the convenient collection study or to otherwise support performance goals under this Plan. To reflect these anticipated changes, the collection budget was increased from $1.4 to $1.84 million for 2019-2020. Projections consider trends to date over 2014-2017, including the average cost per pound, average annual cost per site, and average cost per container swap. Projections assume that the average cost per pound collected remains relatively constant throughout the term, while the number of swaps increase an average of 10-15%. A 3% contingency is also included in this projection to account for unforeseen developments, changing market conditions, or adjustments required based on the results of the convenient collection study in later years of the Plan. For more information, see the detailed Budget Narrative in Attachment 4.

The carpet recycling process starts with developing awareness of the recycling program, and identifying and establishing sites throughout the state, in both urban and rural areas, for drop-off and collection of post-consumer carpet (PCC). CARE works both in California and beyond to engage in significant outreach to all program participants, while working to develop markets for new and existing PCC-content products. Relevant parties in carpet collecting, processing, and manufacturing of recycled-content products include the following:

- **Carpet Manufacturers (Mills)** – Carpet Mills are participants under the Plan. Carpet Mills produce broadloom carpet and modular carpet tile subject to Carpet Stewardship Laws. Carpet Mills are responsible for charging the assessment on all invoices, remitting the assessment funds to the Program on a quarterly basis, and following other Carpet Stewardship Laws requirements and this Plan.
• **Retailers** – Carpet retailers selling broadloom and/or modular carpet tile in California serve as the point of purchase for California consumers. Retailers interact directly with both consumers and installers. Retailers are responsible for charging the assessment at the point of sale and for following other Carpet Stewardship Laws requirements and this Plan.

• **Installer/Contractors and Building Owners** – Installer/contractors are hired by retailers or consumers to install purchased carpet, carpet tile, or other flooring materials; as part of this process, they often provide “tear-out” services to remove and dispose of discarded PCC. Installer/contractors are encouraged to locate carpet recycling drop-off sites in their area and to prepare tear-out PCC properly for recycling. Building owner education includes mechanisms to engage commercial building owners, especially to promote commercial tile recycling and reuse. CARE anticipates that building owners will become a higher focus area for outreach in later years of the Plan as increased outlets for commercial carpet recycling become available.

• **Carpet Recycling Drop-Off Sites** – Drop-off sites are locations in which the public—including installers, contractors, and do-it-yourselfers (DIYers)—can take source-separated PCC to be collected for recycling. Generally, these drop-off sites are located at disposal locations such as transfer stations, material recovery facilities (MRFs), or landfills. Drop-off sites may be Program-supported or privately provided. Many drop-off locations accept source-separated PCC for recycling at a reduced tipping fee. Under the Plan, CARE will work to increase drop-off sites in line with the goal to increase convenience with a priority to one site in every county with a population of at least 50,000 by July 1, 2019 and conduct a study in 2018 to inform potential future expansion of convenient collection opportunities in 2019-2022.

• **Collector/Sorters** – Collector/sorters receive PCC from CARE drop-off sites and private (generally retailer) collection sites, sort the collected PCC by fiber type, bale like materials, and sell the carpet they collect to processors that recycle the carpet materials into feedstock for new recycled-content products. Collector/sorters serve an important role on the front lines of the consumer/installer interface and interact directly with retailers and drop-off site locations. Targeted subsidies and other incentives are available to collector/sorters, subject to the Carpet Stewardship Laws requirements and this Plan.
- **Reuse Centers** – Reuse centers or organizations provide opportunities to give a second life to gently used broadloom carpet or carpet tile. Drop-off sites, collector/sorters, or processors may separate gently used California PCC for resale or donation to reuse centers, nonprofits, schools, or other organizations. Collector/sorters and processors are currently eligible to receive subsidies for reuse, subject to the Carpet Stewardship Laws requirements and this Plan. CARE tracks reuse pounds separately.

- **Processors** – Processors may be located within or outside of California, but they must use California-generated PCC to participate in the Plan. Processors produce various “recycled output” materials, such as carpet fibers and post-consumer carpet calcium carbonate (PC4) from the backing, for use as feedstock for new products. Domestic processors sell these recycled materials to manufacturers for use in making new recycled-content products. Processors managing California PCC are eligible to receive a variety of subsidies and other support, subject to the Carpet Stewardship Laws requirements and this Plan. (The previous Plan referred to processors as Tier 1 processors.)

- **Manufacturers** – Manufacturers use various recycled output materials secured from processors, such as carpet fibers and PC4, as feedstock in the production of recycled-content products. Manufacturers sell these recycled-content products as consumer products or as pellets to be used by other manufacturers in the final production of consumer products. Manufacturers may be located within or outside of California, but like processors, they must use California-generated PCC to participate in the Plan. Domestic manufacturers using California recycled output are eligible for subsidies and other support, subject to the Carpet Stewardship Laws requirements and this Plan. (The previous Plan referred to manufacturers as Tier 2 manufacturers.)

- **California Facilities** – Also referred to as California-based businesses, this term refers to collector/sorters, processors, manufacturers, and other participants with facilities located in California. As of 2015, the Program has adopted preferential grant criteria for California facilities to encourage increased in-state capacity and throughput development. The Program may consider additional preference mechanisms for California-based businesses, such as the creation of a California facility subsidy payout (potential higher
payouts to California facilities), which may be adopted over the course of the Plan. Currently, all domestic facilities located within or outside of California are eligible to receive subsidies, subject to other Program requirements. No subsidies are available for facilities located outside of the United States. CARE anticipates that as in-state capacity expands in California a greater percentage of assessment funds will be distributed in the state over time.

- **Stakeholders** – The Program is supported by an array of additional stakeholders represented within the categories above and by other organizations such as local governments, state agencies, nongovernmental organizations, waste agencies, waste haulers, purchasing cooperatives, associations, and other groups. In 2016, CARE formed the California Council on Carpet Recycling (Council) to serve as an advisory committee representing these many stakeholder groups. In December 2017, the CalRecycle Director appointed a new Advisory Committee per AB 1158, which serves this purpose as of January 1, 2018.

- **Consumers** – Consumers include individuals, businesses, and agencies involved in making decisions about the purchase of broadloom carpet, carpet tile, or secondary products made with recycled carpet content, as well as the tear-out and removal of discarded post-consumer carpet. Over the course of this Plan, the Program will increase messaging to encourage consumers to “Buy Recycled and Recyclable” carpet products, provide carpet care tips and opportunities for carpet reuse and donation to extend useful life of carpet, and request or require that installer/contractors bring discarded carpet to a drop-off site to be recycled. Since the purchase of carpet is an event occurring infrequently, emphasis will focus on active buyers and point-of-purchase interactions as opposed to the public at large.

Figure 4 presents a conceptual map showing these various entities and their relationships in supporting carpet stewardship in California. What becomes evident upon examination of this graphic is the complexity of the ecosystem. Not captured in this diagram is the linkage and influence of the larger macroeconomic system associated with crude oil, fracking, virgin raw material, post-industrial material, and polymer production, nor the political impacts, for example, of China’s National Sword initiative and its global implications for all recycling. These macroeconomic factors all play an enormous role in the success or failure of carpet recycling efforts and are extremely challenging to overcome.
Figure 4. California Carpet Stewardship “Ecosystem” Map
Collection Locations

Drop-off Collection Sites

Under the CARE Program, carpet is collected at two types of sites: public drop-off sites throughout the state and private retail stores or other sites, and separately by mill managed large-site projects. Public drop-off sites are sponsored by the Program and coordinated through local government representatives in each targeted region or via private enterprise. Private collection sites rely on direct service by collector/sorters or processors and are generally located at carpet retailers or local disposal sites. Private collection sites are typically only available to individual retailers or their installation contractors for recycling following carpet tear-out. Both mechanisms serve an important role in providing for convenient collection throughout California. The descriptions below provide more information on these two methods used to collect post-consumer carpet:

- **Public drop-off sites.** Public sites include traditional disposal locations, such as transfer stations, landfills, material recovery facilities (MRFs), or construction and demolition (C&D) material facilities. These locations allow installation contractors, DIY individuals, and businesses to drop off source-separated and properly prepared PCC discards for recycling. The Program provides and coordinates regular service of PCC collection containers (such as trailers, debris boxes, or cargo bins) via third-party haulers and delivers collections to participating collector/sorters and processors. A tipping fee may be collected and retained by each drop-off location to offset labor costs associated with operations. Some facilities offer reduced or eliminated tipping fees for source-separated carpet to provide incentives for clean, sorted material and reduce landfilling, a practice encouraged by the Program. The Program-provided collection containers and transportation service for the public drop-off sites is offered at no cost to the participating drop-off site. These public sites can be particularly important for installers tasked with self-disposal of tear-out materials after installation as well as for general contractors and DIYers.

- **Private collection sites.** These sites are typically private commercial businesses, generally carpet retailers or commercial distributors, providing installation and PCC tear-out services for their customers as
part of the purchase of new carpet or other flooring. Private sites are particularly important for installers tasked with returning tear-out PCC to the retailer for disposal or recycling post-installation. As of December 2017, an estimated 160 private locations were being serviced statewide by participating collector/sorters. For competitive reasons, collector/sorters do not currently release listings of their private collection locations, although they are required to report such information via new reporting mechanisms to identify the number of private service locations by county (see Attachment 6) and support Program planning for convenient collection. Participating collector/sorters and processors may provide PCC collection containers (trailers, debris boxes, or cargo bins) to collect source-separated PCC discards for recycling on a pay-for-service basis. Private sites arrange for collection services directly from collector/sorters or processors.

- **Carpet Mill managed project collection** – in addition to public drop-off and private pick-up service sites, Carpet Mills may offer individual collection for large commercial projects. Such service is generally managed directly between the Carpet Mill and commercial generators and usually associated with the sale of new replacement carpet.

As part of CARE’s 2018 convenience study, described in the Convenient Collection section starting on page 95, CARE will survey collector/sorters quarterly to update the list of private collection sites around the state, in addition to numerical data submitted via monthly reports. While detailed private location data will not be released if confidential, CARE will work to incorporate such sites on a general map of California by county (see Figure 5 below).

Figure 5 shows the number of available CARE drop-off sites in each county supported by the Program plus privately-operated sites as of December 2017 (privately operated sites are sites that may accept material from the public but do not receive Program-subsidized service). Attachment 6 lists the facility names and addresses for all CARE public sites. Facilities are limited to participating members of the Program, locations that are participating in subsidies, and those that have agreed to be listed as collection sites. The Program regularly updates an online map of drop-off sites, which provides the public an easy, interactive way to find drop-off sites for their used carpet. The map uses data from a survey of current public sites and lists information such as the collector/sorter’s address, hours, and tipping fees. The Program promotes the map through digital, print, and in-person communications.
Information maintained in the Program database is based on the best available data as reported by the participating facility, and members are encouraged to update their data annually.

Since 2013, the Program has increased the number of sites each year, from 6 counties in 2013, to 11 counties (14 sites) in 2014, and 22 counties (23 sites) in 2015, including both rural and urban population areas throughout the state. As of August 8, 2018, there were active CARE sites in 43 counties operating in the state. The Program is continuing to work toward the goal of 58 Program-supported drop-off sites in 2018 (1 per county), subject to interest and willingness of individual counties and disposal facilities, and will initiate efforts to further expand sites in line with the goal to increase collection convenience presented in Goal #6, page 45, which will guide efforts until a refined standard is adopted following the completion of the convenient collection study. Noteworthy are 7 counties that have indicated no interest in joining the CARE drop-off site program. There have been discussions with all 58 counties in California.

The goal to increase convenient collection establishes increased targets for multiple sites in more populated urban regions with populations greater than 500,000, such as Los Angeles, Sacramento, and the San Francisco Bay Area, as other counties work through Program considerations and approvals at their own pace. Under the Plan, the Program will continue to provide service in both urban and rural counties. The Program will coordinate with local governments, local disposal locations, the Advisory Committee, and CalRecycle to identify potential drop-off locations. Please refer to page 96 for more details on the process of siting locations.
Figure 5. Public and Private Collection Sites by County for California Carpet Stewardship Program

Map Key

- Counties with green background have at least one drop-off site.
- Counties with white background have no drop-off sites.
The Program sponsors public drop-off sites in this way:

- Program staff provides technical assistance and recommendations for local governments and disposal locations that best meet local needs.
- A trailer or cargo shipping container is placed at the facility (size and style selected jointly with the facility).
- CARE provides necessary location-specific (e.g., bilingual) signage and informational materials and works to train staff.
- CARE manages the scheduling of trailer/container exchanges and transportation to designated collector/sorters or processors.
- Participating counties oversee daily operations and promote the Program to contractors, installers, retailers, and DIYers. Counties may adjust tipping fees to encourage participation; the Program encourages such practices as may be feasible by participating sites.
- All entities dropping off carpet, whether a person or business, must prepare the carpet by cutting the carpet into manageable segments (generally 4 to 6 feet wide); packaging the carpet into rolls; removing tack strips, trash, and debris; and separately rolling or stacking carpet pad (where accepted).

The Program currently covers the costs of container storage (collection containers or trailers), shipping/transportation to the collector/sorters and processors, and tipping fees charged by the receiving party. It also provides basic, bilingual educational materials such as brochures and signage tailored to the needs of each county to support local education and outreach. Following collection, post-consumer carpet is delivered to collector/sorters or processors for sorting and/or processing. Beginning in 2018, CARE will begin offering on a pilot basis through 2019, additional special incentives such as but not limited to small allocation infrastructure reimbursement and labor compensation in targeted regions to remove barriers, especially for sites or regions where public sites have been challenging to establish. Such incentives may be limited to rural counties. The continuation of such incentives will be reconsidered following the results of the convenience study.

To support private collection service, CARE provides collector/sorter subsidies, education, outreach, and technical assistance for installers and retailers and targeted pilot incentives for local service providers and retailers, especially in support of regional approach areas.
In 2015, the Program undertook an effort to increase service systems and improve operational efficiency. The team added basic dispatching service support and administrative assistance as well as established a seven-step collection site workflow to increase efficiency and response time following an agreement for participation. CARE will further expand contract and/or staffing resources to support collection and operational efficiency under this Plan.
Safeguards

Requirements for collector/sorters are outlined in AUPs (included as Attachment 12) and may be refined from time to time. AUPs provide various safeguards including assurances that materials eligible for subsidies are generated in California. New requirements adopted under this Plan include:

- Monthly reporting of the number of private service sites receiving pick-up service.
- Regular (at least quarterly) reporting of service via third-party confidential reporting structure provided by Aprio to be launched by the June 1, 2019 reporting period, subject to verification via AUP review; data may include but is not limited to address locations of each service site, size of containers, frequency of pick-ups, and hours of operation (when site is accessible to installers).
- Participate in annual cost survey providing actual cost-of-service data, posted handing (tip) fee, cost of collection and handling, and other data as requested.
- Aggregated summary of pick-up sites will be generated by city or county based on data received and mapped periodically to understand the distribution of pick-up site locations to support ongoing convenient collection planning and implementation.
- Accept minimum operational standards for service including but not limited to: accept all polymer types, provide educational materials that carpet is collected dry and debris-free, label collection containers with carpet recycling identification, additional requirements (including safety requirements) as may be adopted.
- Although CARE is not aware of any such instances, collector/sorters collecting materials from outside of California are subject to additional review to prevent against the potential for fraud on materials generated outside of the state; no materials generated outside of California are eligible to receive funding under this Plan.
Carpet Collection Safety

In addition to the basic safeguards for collection that include reporting, accounting, and other general elements of an efficient collection system, there also exists the need to describe briefly here the basics for safety and safe handling of carpet collection. Fortunately, post-consumer carpet is neither hazardous nor toxic; however, because, by its nature, it is a “used” item, it can contain objects such as sharps or biohazards that one must be aware of. Furthermore, by its construction, carpet contains generally ~70% hydrocarbons and therefore, under extreme conditions, could pose a fire hazard. The following applies to all 3 methods of collection (private and public sites that are part of the CARE Program as well as manufacturer-led and managed direct collections from commercial jobsites, which may occur separately but are reported under this Plan):

- All hazards and sharps contained in or on the PCC must be removed and disposed of appropriately.
- No biohazards can be collected at any PCC site and must be disposed of appropriately.
- No human waste can be collected at any PCC site. Particularly for larger collection containers such as a trailer, care must be taken to prevent people who are homeless from taking residence.
- To avoid potential fires, all collection sites must be labeled “NO SMOKING / NO FUMAR.” Care must be taken to avoid contact with paints, and special considerations must be taken when carpet is collected in close proximity to mattresses.
- Carpet collection should not be done near battery collection, oil collection, or any hazardous chemical collection.
- Some PCC containers, such as trailers, involve slightly elevated heights. Cautions must be taken to help prevent slips and falls where appropriate.
- It is the responsibility of the property owner where the container is being staged to ensure the above items are adhered to.
- CARE publishes the above listed items as reasonable guidelines and takes no responsibility for their use or misuse.
Rural Collection

The Rural County Collection Program began in 2012 as a pilot effort with six rural counties. Considered a success, the rural collection pilot became a regular element of the Program in 2014 and has now been incorporated into the statewide Drop-Off Collection Site program described above. The Plan includes a shift from rural county drop-off site support, to the full statewide collection goal. The Program will continue to work closely with Rural Counties Representatives of California (RCRC) to identify, select, and coordinate with rural counties to expand drop-off opportunities in rural areas. However, since urban counties are now also under development, we no longer refer to rural collection, but rather the Drop-Off Collection Site program.

Convenient Collection

CARE has had convenient collection available throughout California and will continue to work to increase convenient collection. After a successful rural pilot program, the pilot was expanded to include both urban and rural locations. In response to challenges faced at various new drop-off locations, especially larger, more complex locations, this Plan allows for the tailoring of contracts and flexibility to work at the pace of each local organization. In addition, sites have varying restrictions on space, labor, and dock or ramp access, which has resulted in changes to the Program’s drop-off site logistical support to accommodate diverse needs and to ensure success. CARE is also working to ensure the expansion complements, rather than competes with, or worse destroys, the private collection networks set up by collector/sorters and processors. Accordingly, the Program avoids setting up new drop-off sites near private enterprises, while also working to balance siting locations to best serve the target region. In addition to the continued expansion in 2018, CARE is conducting a convenience study as referenced below to ensure the goal of convenient collection for all California residents is achieved.

CARE offers support for drop-off sites by providing a container for collection, third-party hauling to bring carpet material to recyclers, and promotional materials. In addition, CARE provides individualized and ongoing technical assistance to each drop-off site.
Steps for siting, establishing, and onboarding new drop-off sites are outlined below:

1. **Identify a Facility**: Drop-off sites are generally established at a transfer station, landfill, MRF, or C&D recovery facility. Ideally, the facility should be centrally located and selected to maximize convenience and participation from installers, residents, contractors, and carpet retailers. CARE coordinates directly with facility staff and/or local government recycling coordinators to arrange contact and discuss the Program.

2. **Arrange a Site Visit**: Once a location has been selected (e.g., a transfer station), a CARE Associate arranges a site visit with key facility staff to go over the Program in more detail and work through the operational logistics of how to collect and consolidate the received material. In many cases, the local government contact will join the site visit to provide valuable input and regional context to the discussion.

3. **Conduct Onboarding Conference Call and Order Container**: Once an agreement is reached to establish a new drop-off site, a conference call is scheduled with facility staff (e.g., administrative and operational personnel) to review program procedures and promotional materials. A container is ordered through one of CARE’s third-party haulers and delivered to the site once it is ready to begin accepting material.

4. **Begin Drop-off Site Operations**: Once the container is delivered, the drop-off site begins accepting and collecting carpet while fine-tuning administrative and operational logistics. Approximately one week before the container is full, drop-off site staff are instructed to submit a service request through the CARE website. CARE arranges the pick-up of the full container, which is exchanged for an empty one.

5. **Promote the Drop-off Site**: Once the logistics are in place, CARE provides both physical and electronic promotional materials to the drop-off site, including:
   a. Bilingual flyer to instruct contractors and installers on how to prepare carpet for recycling.
   b. Weather-resistant “Carpet & Pad Recycling Here” sign (2 x 3 feet).
   c. CARE poster.
   d. Media kit (press release, newsletter, website content, and public-service announcement templates).
   e. “How to Load the Trailer for Carpet Recycling” flyer.
f. Bilingual instructional video(s).
g. Additional CARE-directed value-added promotions to support further site awareness, especially among retailer and installer target audiences throughout the region following a new site launch; these efforts may include but are not limited to:

- E-News announcement of site launch.
- Retailer in-person or phone call outreach visit to notify nearby retailers of new collection drop-off location(s).
- Digital web-based campaigns connecting to local website.
- Installer-focused tabling events at local supply houses.

CARE strongly encourages the facility to list carpet as a recyclable material on its website and to offer a reduced tip fee to incentivize recycling and proper handling by contractors and carpet installers. CARE provides sample website content and best practice guidance to maximize promotional effectiveness.

6. **Quarterly Report and Quarterly Call**: Drop-off sites are required to submit a brief report on a quarterly basis, which includes amounts of carpet collected and other information. Data collected via these reports is used to understand operational trends, track volumes generated, and evaluate effectiveness of E&O activities, which may result in increased gross collections, as a key E&O Program metric. Participation in a quarterly phone call is also required so that CARE can ensure the site is engaged, address any issues, share experience and learnings, and demonstrate CARE’s continued interest, involvement, and oversight of the Program.

The drop-off sites, including rural collection, are designed to ensure that consumers have access to reasonably convenient opportunities in each county to manage their post-consumer carpet. To evaluate the current goal, the Program is conducting a study of collection convenience to determine if and where additional sites may be needed. In the event any county or counties decline drop-off service offerings, CARE will work to reallocate resources to other areas by considering such potential factors as population density, retailer density, discards flow, facility readiness, and other factors as identified by CARE staff or through the convenience study, when results are completed and available.
Convenient Collection Study

Under this Plan, the Program has accomplished the goal of reasonably convenient collection, but it will continue development by conducting a study to evaluate the effectiveness of the current collection service model, which relies on a combination of Program-supported public drop-off sites in 58 counties as well as the existing 160+ private service sites also operating throughout the state. The study is expected to be completed by the end of 2018 and any refinements to begin implementation by mid-2019 after consultation with CalRecycle.

The Program supports convenient collection through two primary avenues (the third avenue is direct collection via mills, which is not considered here):

- Public drop-off sites
- Private pick-up service

For whom is convenient collection intended to be convenient?

- **Installers** – Primary audience disposing of tear-out carpet; installers return tear-out carpet to 1) the retailer location dropbox, trailer, or dumpster, or 2) disposal site (landfill, transfer station, C&D facility). CARE believes that 90% of carpet installations are performed by professional installers. This hypothesis will be examined under the convenient collection study underway.

- **Retailers** – Generally managing installer crews tasked with provided tear-out service for consumers; retailers may cover cost of disposal by local waste haulers in the case of dropbox, trailer, or dumpster service or tip fees charged by a local disposal site.

- **Consumers** – Consumers generating tear-out carpet are generally served by installer crews providing tear-out service during installation. This service is arranged through the retailer or directly by the consumer. Self-haul or DIY consumers may dispose of tear-out carpet via 1) disposal sites or 2) bulky pick-up/curbside service, although the portion of disposal occurring directly by consumers is presently unknown and thought to be small.
Program services to support convenient collection for these audiences include the following:

- **Private pick-up service** – Carpet recycling collection service provided by collector/sorters or local haulers.
  
  o **Collector/Sorters** – Receive collection subsidies for every pound collected, sorted, and shipped/sold for recycling. Whole-broadloom carpet is currently eligible for 2 cents/pound; carpet tile is currently eligible for 5 cents/pound. PCC (broadloom or tile) shipped/sold/donated for reuse is eligible for 10 cents/pound. Collector/sorters are subject to Program requirements, reporting, AUPs, and other safeguards.
    
    ▪ **Audience served**: Largest retailers, their installer crews, associated consumers using tear-out service.
    
    ▪ **Size**: Largest generators; trailer or cargo bin service.
    
    ▪ **Activity area**: Those returning tear-out carpet to retailer locations.
    
    ▪ **Number of sites served**: 160 sites (as of December 2017).
    
    ▪ **Generation**: 93% of 2017 gross collections (~91 million lbs.).
    
    ▪ Leverage existing collector/sorter network to service largest generators; anticipated to continue to serve as the primary recipients of gross collections as collection and recycling scales.

  o **Local Haulers** – In 2017 the Program launched a pilot regional approach with several goals for increasing collection and recycling of carpet, including working to support local collection service in target regions. The approach is currently focused in the Sacramento and Los Angeles regions with additional regions targeted for future years. Local haulers and collector/sorters are eligible for collection infrastructure support, micro-grants, and new account retailer service rebates under a pilot effort to run through 2019. Results of the pilot will inform potential expansion following the completion of the convenience study. Haulers provide pick-up service to retailers; materials are consolidated and received by participating collector/sorters.
    
    ▪ **Audience served**: Retailers, their installer crews, associated consumers using carpet tear-out service.
E. COLLECTION SYSTEM

- **Size**: Medium and small generators; larger than dumpster service.
- **Activity area**: Those returning tear-out carpet to retailer locations (return retailers).
- **Number of sites served**: >3 sites (as of December 2017).
- **Generation**: <1% of 2017 gross collections.
- Leverages existing waste hauler service network to develop local service within local franchised service requirements; service under development; anticipated to serve larger role in future as collection and recycling system scales.

- **Drop-off site service** – Carpet recycling collection drop-off established at disposal sites in each county.
  - **Drop-off sites** – Receive free containers, transportation service, payment of handling fees charged by receiving collector/sorter, education and outreach support, materials, and technical assistance.
    - **Audience served**: Retailers, their installer crews, associated consumers using carpet tear-out service; DIY consumers; self-haul general contractors.
    - **Size**: Varied sizes (pick-up truck, van, box truck).
    - **Activity area**: Those returning tear-out carpet to disposal location (self-haul).
    - **Number of sites served**: 44 sites (as of December 2017)
    - **Generation**: 7% of 2017 gross collections.
    - Leverages existing disposal site network and established disposal/recycling drop-off infrastructure; provides collection option for those without access, space or sufficient quantity for pick-up service.

**Cost of Service**

The costs of collection are one of the factors which will be considered in the convenience study. Costs can be considered using three distinct lenses: Consumers, Retailers (service charged to retailer and cost incurred by collector/sorter), and Drop-off Sites (service costs subsidized by the Program and cost incurred by participating drop-off site). The Program is designed to offset the cost of collection as an incentive to increase collection convenience and ultimately recycle carpet discards. The cost of service varies based on many factors such as provider service rates, regional
considerations, distance to site, processor supply and demand, and other factors. Costs listed below are presented as averages or ranges, based on best available data. In 2019, CARE will initiate a new required annual survey of subsidy recipients to obtain more detailed cost of service data to be used in program planning efforts over the remaining term.

**Retailers** – Pick-up service (fees charges by service providers) fees are not currently known. CARE will work to survey collector/sorters and processors a new annual required survey to better understand costs to retailers and private site networks receiving pick-up services. The following numbers are best estimates at this time.

- Monthly container fee: $100 [to be obtained via 2019 survey]
- Cost per collection service (swap): $400 [to be obtained via 2019 survey]
- Handling (tip) fee: $25/ton [to be obtained via 2019 survey]
- Estimated monthly service cost @ 1 swap/week = $100 + ($400 x 4) + ($25 x 15 tons) = $2,075/month [to be obtained via 2019 survey]
- Tear-out fees (revenue): Unknown (retailers may charge consumers for tear-out and disposal/recycling of old carpet during installation).

**Collector/Sorters** – Operating costs incurred by collector/sorters are not currently known; CARE will work to survey collector/sorters via a new annual required cost survey to better understand average operating costs for collector/sorters providing pick-up service to retailers and similar locations.

- Labor/handling: [tbd]
- Overhead: [tbd]
- Profit: [tbd]
- All-in operating costs: [tbd]
  - Range: [tbd]
  - Average: [tbd]
- Drop-off site handling (tip) fee
  - Average: $76/ton (2015-2018)
- Standard handling (tip) fee:
  - Range: $0-$150/ton
  - Average: $76/ton
- Subsidies (revenue):
  o $0.02/lb. for broadloom carpet collected, sorted, shipped/sold for recycling.
  o $0.05/lb. for carpet tile collected, sorted, shipped/sold for recycling.
  o $0.10/lb. for broadloom or tile collected, sorted, sold/donated for reuse.
  o Average annual subsidy earned per collector/sorter: $113,586 (2017).

**Drop-off sites – Operating costs** for drop-off sites are estimated based on the average tipping fees charged by all participating drop-off sites. Ranges are provided for both low and high end, as well as averages, due to regional variations in tipping fees. Labor rates are based on informal cost information provided by several drop-off sites, combined with antidotal information from collection program staff and average labor hours as reported by participating drop-off sites on quarterly reports.

- Labor per load: 24 hours
- Hourly rate: $60/hour
- Labor cost per load: $1,440/load (24 hours x $60/hr.)
- Standard tip fee (revenue)
  o Rural range: Low end: $35-$56/ton; High end: $76-$121/ton.
  o Urban range: Low end: $25-$40/ton; High end: $95-$105/ton.
  o Average: Rural: $49-96/ton, $72/ton; Urban: $35-$101, $68/ton.
  o Overall average: $67/ton
- Average weight per load: 15 tons
- Average labor cost per ton: $96/ton
- Average loss per load: $29/ton = $435/load

**Drop-off sites – Program service costs** (container, transport, handling fee) based on 2017 invoicing data quarterly reports.

- Average cost per pound: $0.10/lb.
- Average cost per ton: $200/ton
- Average cost per service: $2,338/load (2017)
- Average subsidized service per site (annual): $15,409 (2017)
Convenient Collection Study: Overview of Tasks

**RESEARCH PLAN**

- **Research**
  - existing standards for other products
- **Survey**
  - key audiences regarding perceptions of convenience
- **Propose**
  - potential standards + obtain stakeholder feedback
- **Analyze**
  - potential convenience standards + costs
- **Draft summary report**

Task 1 – Research (underway)

Task 2 – Survey key audiences (underway)

Task 3 – Stakeholder feedback (Q3-Q4 2018)

Task 4 – Analysis (Q4 2018)

Task 5 – Draft summary report (Q1 2019)

The study will examine the question of easy and cost-effective convenient collection, especially for installers seen as the primary source of PCC at the time of disposal. Although it is currently thought that most carpet is installed by professional installers, the convenience study will work to better understand and quantify the role of installers as well as that of general contractors and DIYers in the disposal of tear-out PCC to ensure various segments of the population are considered in determining convenience for tear-out carpet management options. CARE has and will further consult both CalRecycle and the Advisory Committee to inform potential study elements and review results of the study, as they are available.

One goal of this study will be to identify locations without convenient access and include recommendations for prioritizing where to place new locations. CARE may consider such factors as, but not limited to, current distribution of
public drop-off sites and private collection sites; additional points of interest such as retailer locations, distribution centers, reuse locations, supply houses, or other disposal sites; tip fees or cost of private service if readily available; population density; geographical or situational factors that may increase travel time between sites; drop-off site labor costs; retailer space constraints; quantity/portion of discards being handled by target audiences; cost to expand Program service; and convenience standards for other similar programs. CARE may conduct a focus group, stakeholder workshop, or Advisory Committee meeting to obtain additional data as deemed appropriate to accomplishing the goals of the study. Upon completion of the study, CARE will consider these findings and develop an action plan including timeline for implementation to be initiated by mid-2019, should the study indicate that sufficient sites are not already provided. The action plan will guide convenient collection efforts for 2019-2022. In line with July 2018 Advisory Committee recommendation #5.1, upon receipt of the convenient collection study, CARE will share, meet and discuss the results and the potential for revisions to the Plan, if needed, with the Advisory Committee.

**Recycling and Reuse Processes**

Processors receive whole carpet either directly from generators or from collector/sorters. The carpet may be pre-sorted by fiber type or sorted when received. Most carpet types are not easily visually identifiable. Sorting is done by hand using a specialized infrared device, which identifies the face fiber material type. Fiber types include nylon 6, nylon 66, polyethylene terephthalate (PET), polytrimethylene terephthalate (PTT), polypropylene (PP), mixed fibers, and natural fibers (such as wool). The Program as outlined in the Plan is designed to ensure that all relevant carpet polymers and fibers are covered. This Plan recognizes that polymers that are the most prevalent and readily recyclable will be prioritized over the short-term, while those with smaller segments or those more difficult to recycle will have increased focus over the long term as markets are developed.
Whole carpet is processed to produce the recycled output for use in secondary products, including carpet made from recycled content (although most carpet-to-carpet recycling is currently limited to tile). Processing methods include a wide range of technical and engineering approaches to separate the more-valuable face fiber from the backing material and/or chemical depolymerization to produce a high-quality polymer able to be re-extruded into new carpet fiber. The backing material (primarily a woven backing made of polypropylene but including PC4, latex or other adhesives, and debris) and less-desirable, unrecyclable face fiber that cannot feasibly be recycled may be sent to energy recovery or placed in a landfill, until improved markets and technology innovations are developed.

Collector/Sorters

Collector/sorters collect used carpet and sort it by fiber type in preparation to sell to processors, who process (recycle) the material into usable recycled output. Collector/sorters collect used carpet in three ways: 1) they may place a trailer or container at a drop-off site that can then be filled with carpet; 2) they accept carpet drop-offs at their warehouses for a fee; or 3) they collect from a private site, such as a retailer.

Collector/sorters are currently eligible for three types of subsidies: the collector/sorter subsidy, the collector/sorter carpet tile subsidy, and the reuse subsidy, as well as monthly reporting incentives, as described in the Subsidies section of Chapter F. Market Development.

The Program collects detailed data regarding materials handled by these entities. Five collector/sorters currently participate in the Program. Two participating collector/sorters also function as processors. Collector/sorter facilities that accept material from the public are included in the Program collection map (shown in Figure 5). Note that participating facilities and accepted materials change over time. Data maintained in the Program database is based on the best available data as reported by the participating facility, and participants are encouraged to update their data annually.

To be considered a qualifying recipient for potential funding, collector/sorters are required to be CARE members in good standing and sign a contract. Under the agreement, collector/sorters are subject to reporting, Agreed Upon Procedures (AUPs) review, management practices, and documentation requirements.
Reuse

The Plan currently supports reuse through reuse subsidies available to collector/sorters and processors, as described in the Subsidies section in Chapter F. Market Development. Education and outreach activities also promote reuse.

To be considered a qualifying recipient for potential funding, collector/sorters or processors who claim reuse pounds are required to be CARE members in good standing and sign a contract. Under the agreement, participants are subject to reporting, Agreed Upon Procedures (AUPs) review, management practices, and documentation requirements.

Processors

Processors are the organizations that receive source-separated PCC discards and provide the initial conversion of PCC discards into recycled output to be used in the manufacture of secondary products. Some processors may also function as collector/sorters or manufacturers. Subsidies to support processing of post-consumer carpet are described in the Subsidies section of Chapter F. Market Development.

Throughput is defined as the total amount of material received at a facility for a specific activity (measured in tons per year, TPY). Over time, the Program seeks to increase process yield to maximize recycled output (RO) for secondary use and to minimize the amount of processing waste material sent to disposal. Increasing the yield of carpet recycled output during the recycling process can have a significant impact on total recycling and drives a reduction in disposal, even without increasing gross collections.

To be considered a qualifying recipient for potential funding, processors are required to be CARE members in good standing and sign a contract. Under the agreement, processors are subject to reporting, Agreed Upon Procedures (AUPs) review, management practices, and documentation requirements.

Manufacturers

Used carpets may be recycled to make new carpet or as a component to produce other products. Secondary manufacturers obtain recycled output processed from the carpet fiber or carpet backing and incorporate it into new or existing products. These manufacturers produce a variety of recycled-
content products including carpet cushion/underlayment, building insulation, water heater blankets, mattresses, pillows, pallets, automotive parts, shelving units, toolboxes, and erosion control products. Chapter F. Market Development provides more information on manufacturers, including subsidies available for using recycled carpet content.

To be considered a qualifying recipient for potential funding, manufacturers are required to be CARE members in good standing and sign a contract. Under the agreement, manufacturers are subject to reporting, Agreed Upon Procedures (AUPs) review, management practices, and documentation requirements.
F. Market Development

The Program will continue to work with collector/sorters, processors, manufacturers, and California public agencies to advance carpet recycling and expand the market in the following ways:

- Supporting the development of recycled carpet products produced in California.
- Encouraging alternative uses for existing products, such as recycled-carpet-content cushion.
- Increasing number of manufacturers producing recycled carpet products in California.
- Spurring public agency interest in purchasing recycled carpet products through collaborative product presentations with CalRecycle Tire Products, RMDZ, LAMD and related staff.
- Building market demand for products made with California post-consumer recycled carpet content.

The Program is working to spur market growth through the expansion of recycled carpet products produced and manufacturer capacity in California. Subsidies are designed to increase collection and recycling of post-consumer carpet and to advance development of a wider variety of products made from recycled output. Subsidies, grants, technical assistance, education, collaboration and other support offered by the Program promotes increases in processing of used carpet, production of secondary products and procurement of recycled-carpet-content products in California.

Subsidies are prioritized under this Plan as the primary incentive to drive recycled output and make progress toward other goals, including market development. Other incentives and support listed below are included with an estimated minimum annual budget allocation. However, precise amounts may be adjusted up or down based on market feedback and analysis of
results. For example, in the event that recycled output increases are less than anticipated in a given year, surplus funds may be reallocated to other strategy areas such as grants, technical assistance, education and outreach, or other program areas. Recommendations will be presented to the SPC for consideration. The Advisory Committee will be consulted for input on allocations and focus areas, although the SPC/SFOC will make final decisions.

The Program conducts the following efforts, as described in this chapter, to increase carpet reuse and recycling of carpet into secondary products:

- Subsidies for collector/sorters, processors, and manufacturers.
- Targeted grants for selected capital projects; research, development, and testing; recycled product procurement; design; and reuse and collection.
- Other financial incentives as market conditions indicate.
- Technical assistance.
- Promote education and collaboration of and among stakeholders regarding opportunities within the marketplace.

This Plan presents baseline budget and primary tactics for each major strategy area including subsidies, grants, technical assistance, R&D, E&O, collections and staffing. Program strategy areas will be reviewed regularly (generally annually) by CARE staff, with recommendations for major adjustments, additions or other modifications presented by the Executive Director to the SPC for consideration on an as needed basis.

The consideration and decision-making process for activating or adjusting these various strategy areas will generally employ the following sequence: 1) submit to SPC for review, 2) consult the Advisory Committee, 3) review with CalRecycle and seek approval if appropriate, 4) implement after final approval by the SFOC, and 5) notice of decision and rationale. As recommended by CalRecycle and from experience gained in prior years, the Plan incorporates significant flexibility in its operation and execution of these strategy areas, allowing CARE to react quickly and efficiently to changing market conditions that history has instructed we can expect in the next 5-year period.
Subsidies

To support the performance goals as described in Chapter C, the Plan provides for a potential range of incentives and subsidies within the Program for the following entities and activities, as described further below:

- **Collector/sorters**: for reporting and for broadloom collection, tile collection, and carpet sent for reuse or recycling.
- **Reuse**: for carpet tiles and broadloom carpet.
- **Processors**: for recycled output from carpet tile, Type 1, Type 2, PC4, or other approved outputs.
- **Manufacturers**: for use of non-nylon or nylon 6 and nylon 66 recycled carpet materials as feedstock in the manufacture of new products.
- **Energy Recovery**: subsidies targeting limited use of CAAF/Kiln for diversion of material which cannot be sold as recycled output, are discontinued under this Plan beginning in January 2018.

CARE anticipates the continued evolution of processes, products, applications, and outlets for PCC over the term of the Plan. A new process to evaluate such developments is the creation of a Definitions Task Group. The function of the Task Group is to develop new and to implement and extend subsidy definitions; make recommendations to enhance testing and validation protocols around ash, moisture, fiber composition, and backing material composition; and to address new applications which may not clearly or neatly fall into existing subsidy categories, to determine if and how such developments fit into the subsidy structure and if modifications are necessary.

CARE will review Program financials quarterly to preempt any budget shortfalls or consider reallocations of excess funds to other budget line needs. CARE will monitor monthly reporting from collector/sorters, processors and Tier 2 manufacturers to examine trends and projections, in line with current practices. Moving forward, such analysis will be overlaid with quarterly sales results, which underpin revenue inflow, and informed by macroeconomic factors such as oil prices, virgin polymer prices, financial cash flow analysis and economic model projections. Information will be reviewed quarterly with the SPC. If changes are needed, CARE will review recommended actions with the CalRecycle prior to implementing any changes to program incentives.
Under this Plan, subsidies act as the primary mechanism to drive program goals. Subsidies may be increased at any time, with or without prior notice. Decreases in subsidy levels are subject to the terms and limitations presented within this Plan including minimum notification guarantee of 12 months, automatic tiered payout levels to individual processors based on recycled output (RO) pound thresholds identified within this Plan or as may be updated from time to time. In response to Advisory Committee recommendation February 2018 2a-2, any planned reduction or elimination in subsidies will be detailed in an email to the recycling community 12 months in advance (or consistent with CARE’s response to recommendation February 2018 2a-1). To the extent such changes are incorporated as part of the scope of the approved Plan, CARE will inform the Advisory Committee and CalRecycle of intended changes prior to implementation. Should changes be required and are not considered part of the approved Plan scope, CARE will discuss with CalRecycle to justify and gain agreement on the proper path forward.

Decision-making affecting subsidy levels will follow the process outlined in the Plan. Subsidies may be increased, decreased, added or eliminated over the course of the Plan pursuant to the guidelines outlined below and decision-making process described throughout this Plan to ensure timely response to market dynamics.

The Program is currently dependent on facilities located both within and outside of California. However, to incentivize and increase California facility capacity, and if market conditions and RO growth justify, CARE intends to evaluate an adjustment (i.e., a decrease) to payouts beginning in Year 3 of the Program, for recipients outside California. Prior to such an adjustment, CARE will conduct an analysis of capacity and throughput in and outside of California, as well as trends and projections for throughput to make a recommendation for adjusted payouts. For instance, adjusted payouts could be structured to reduce payouts to processors and manufacturers outside of California to 80% beginning in Year 3, 70% at the beginning of Year 4 and 60% at the beginning of Year 5. Precise amounts will be determined by analysis results, consistent with meeting recycled output targets, available economic data and input from Advisory Committee in line with decision-making processes outline elsewhere in the Plan.
Approach to Setting Subsidies and Grants

Carpet recycling requires the interplay of many different factors, from collection methods, to processing technology, to market demand, to market pricing. All of these factors may differ across product construction and face fibers used in different product applications. The unavoidable reality is that there is no “one size fits all” path, and there is no single or simple way to describe the extremely complex systems that need to be analyzed, understood, and addressed to adequately fund and operate a carpet recycling program such as this. Unlike simple consumer products with simple consumer purchases such as beverage containers and batteries, carpet products and purchases present a far greater degree of complexity in their recycling systems, and therefore require a different lens through which to view them.

Setting subsidies is based on both market feedback and recent guidance from models (economic, financial, and conversion cost). The current subsidy structure has evolved over the past 4-5 years based primarily on market-based reaction to subsidy levels. Recent examples include subsidy setting for PET and PC4, each requiring 3 rounds of adjustments over short periods of time to drive the level of support desired to increase recycled output. The complexity of the task is exacerbated by the dynamic nature of markets for PCC materials and macroeconomic factors beyond the Program’s control.

Under the current extended Plan under which CARE is operating, CARE has an obligation to give a 12-month notification for any reduction in subsidy to be implemented. To avoid disruptions to the currently established recyclers and understanding some have negotiated contracts based on planned subsidy levels into the future, CARE will not make any reduction in base subsidies in the first two years of the Plan per our currently agreed to acceptance of Advisory Committee recommendations. That two-year commitment is for 2018 and 2019. Thus, subsidy changes involving any reduction would not be implemented prior to January 1, 2020.

Consistent with Advisory Committee recommendation 2d-1 and CalRecycle Request for Approval (RFA) response from May 2018, CARE has clarified its methodology for the setting of subsidies through the following descriptions and use of the various models; see Attachment 9. Setting subsidies requires considerable understanding of market dynamics and time for market responses to take effect. Time implications can span a few months to a year or more depending on equipment availability, start-up issues, product development, market testing, and market acceptance.
In order to comply with the Carpet Stewardship Laws, meet or exceed the 24% target, and to honor time notification commitments to recyclers, setting of subsidies to be offered under the Plan incorporates the following principles, as described in the sections below:

- Highest recyclability
- Subsidy justification
- Performance-based payouts
- Tiered payouts
- Subsidy stacking
- Subsidy guarantee
- Reserve funds
- Financial assurances
- Pilot approach to new subsidies
- Fraud prevention and risk management

**Highest Recyclability**

**PRC §42972(a)(4) states:** “Include a funding mechanism, consistent with subdivision (c), that provides sufficient funding to carry out the plan, including the administrative, operational, and capital costs of the plan, payment of fees pursuant to Section 42977, and incentive payments that will advance the purposes of this chapter, including incentives or grants to state-approved apprenticeship programs for training apprentice and journey-level carpet installers in proper carpet recycling practices. Any grants or subsidies provided for the recycling of postconsumer carpet shall be structured to incentivize the recycling of carpet materials that have the highest recyclability.”

**PRC §42972(b) states:** “The plan prepared pursuant to this section shall be designed to accept and manage all suitable postconsumer carpet, regardless of polymer type or primary materials of construction.”

As of January 1, 2018, the Carpet Stewardship Laws require grants or subsidies provided for the recycling of PCC to be structured to incentivize the recycling of carpet materials that have the “highest recyclability.” Neither
the statute nor the regulations specifically define this term, nor do they specify that this provision overrides other goals in the statute, including achieving the goal of a 24% recycling rate by 2020.

As such, CARE has developed a methodology for analyzing highest recyclability. In turn, that analysis informs an analysis of the Program’s subsidy and grant structure to ensure that subsidies and grants are incentivizing the recycling of those carpet materials with the highest recyclability, while also ensuring compliance with the entirety of the Carpet Stewardship Laws.

CARE has developed a table of recyclability criteria based on PCC market expertise and recycling technology experience regarding the form and purity requirements for various markets. Subsequent dialog with the Advisory Committee and CalRecycle resulted in modification of the table in terms of the criteria for consideration and the rating scale. Table 6 presents the criteria that will constitute the definition of highest recyclability and evaluation against those criteria by type of carpet material. Table 6 incorporates criteria and value range adjustments based on input received from the Advisory Committee as well as consideration by CARE. All but one criterion proposed by the Advisory Committee for inclusion are incorporated.

One Advisory Committee recommended criterion (toxics) was not included, and CalRecycle has concurred with its exclusion as toxics are managed by a different State Agency. The toxics criterion was eliminated since the composition of all carpets is basically the same, and none contain any chemicals required for listing under Federal or State regulations.

One additional criterion (available volume) included by CARE but recommended for removal by the Advisory Committee was ultimately retained. A volume criterion was added because it is a factor that significantly influences the available recycling infrastructure, willingness of processors and manufacturers to invest in capacity, and the Program’s ability to achieve statutory recycling rate goals. The volume criterion importantly reflects the full market value of the materials under consideration and influences recycler decisions regarding capital investment. Sufficiently available feedstock materials are a primary consideration in establishing a recycling operation and end market interest. No matter how easily processed a material may be, if there is not sufficient volume available, no sustainable recycling program can be built upon it. That is, a Plan that incentivizes recycling of highest recyclability carpet materials but does not increase total recycled output for carpet, and within the short timeframe goals of the
statute, cannot succeed. Therefore, volume is critical to an evaluation of highest recyclability in a practical sense, as well as critical in meeting the recycled output goals of the Carpet Stewardship Laws.

Table 6 lists carpet material components in column headings, while recyclability criteria are listed in numbered rows 1–11. Each carpet material is given a value on a scale of 0 to 10, with 0 indicating that the material negatively addresses the criterion (is less recyclable) or makes no contribution to meeting the criterion, and +10 indicating it positively addressed the criterion—that is, the criterion being rated contributes strongly to it being more recyclable. The scale adopted is a modification of that suggested by the Advisory Committee in recommendation February 2018 5-1. CARE concluded after many conversations with a range of knowledgeable and experienced stakeholders that a scoring range of -10 to +10 was too difficult to use for rankings. Instead a 0 to 10 scale was adopted for simplicity, as it provides a sufficient range to highlight differences between products while not being overly cumbersome in its application.

The rankings in Table 6 were generated by calculating the average score of input from an assortment of carpet manufacturers, collectors, sorters and processors on the SPC, then multiplying by the weighting factor. The weighting factor was a composite average of member input based on extensive experience with carpet manufacturing, collection, sorting, and processing. There was considerable dialog on how to justify weighting for each criterion prior to the individual inputs. Clearly depending on your position in the supply chain and business models, weighting can span a range to each criterion, as can the individual scoring.
### Table 6. Highest Recyclability Criteria

<table>
<thead>
<tr>
<th>Highest Recyclability Criteria</th>
<th>Weight</th>
<th>Residential</th>
<th>Other</th>
<th>Commercial</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>N6</td>
<td>N66</td>
<td>PET</td>
</tr>
<tr>
<td>Ease of deconstruction*</td>
<td>15</td>
<td>105</td>
<td>105</td>
<td>105</td>
</tr>
<tr>
<td>Safely recycle all layer similar or higher mat’l perf.*</td>
<td>15</td>
<td>60</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>Cost effectiveness*</td>
<td>10</td>
<td>50</td>
<td>100</td>
<td>20</td>
</tr>
<tr>
<td>Energy saving*</td>
<td>5</td>
<td>20</td>
<td>25</td>
<td>45</td>
</tr>
<tr>
<td>Identification of resin type*</td>
<td>5</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Extent of subsidy required</td>
<td>10</td>
<td>40</td>
<td>100</td>
<td>20</td>
</tr>
<tr>
<td>Reusability</td>
<td>5</td>
<td>10</td>
<td>10</td>
<td>0</td>
</tr>
</tbody>
</table>

Markets available for products:
- a. closed loop recycle back into carpet
  - Weight: 10
  - N6: 100
  - N66: 0
  - PET: 0
  - PTT: 0
  - PP: 0
  - Wool: 0
  - PC4: 0
  - Tile N6: 100
  - Tile N66: 0
  - B’Loom N6: 0
  - B’Loom N66: 0
  - B’Loom Wool: 0
- b. non-carpet closed-loop (recycled multiple times)
  - Weight: 10
  - N6: 30
  - N66: 60
  - PET: 60
  - PTT: 60
  - PP: 0
  - Wool: 30
  - PC4: 100
  - Tile N6: 100
  - Tile N66: 0
  - B’Loom N6: 0
  - B’Loom N66: 0
  - B’Loom Wool: 0
- c. downcycled (1-time)
  - Weight: 10
  - N6: 50
  - N66: 40
  - PET: 50
  - PTT: 40
  - PP: 0
  - Wool: 90
  - PC4: 0
  - Tile N6: 0
  - Tile N66: 0
  - B’Loom N6: 0
  - B’Loom N66: 0
  - B’Loom Wool: 0

Volume Available
- Weight: 5
- N6: 30
- N66: 15
- PET: 5
- PTT: 15
- PP: 0
- Wool: 45
- PC4: 35
- Tile N6: 20
- Tile N66: 20
- B’Loom N6: 20
- B’Loom N66: 20
- B’Loom Wool: 0

TOTAL
- Residential: 100
- N6: 545
- N66: 655
- PET: 505
- PTT: 435
- PP: 470
- Wool: 310
- PC4: 420
- Tile N6: 855
- Tile N66: 840
- B’Loom N6: 245
- B’Loom N66: 245
- B’Loom Wool: 310
Table 6 constitutes the elements of the definition of Highest Recyclability, subject to regular, ongoing review during implementation of the approved Plan. CARE defines highest recyclability according to the results of the analysis as listed in Table 6 above, and those results may change over time as recycling technology advances and as markets change for flooring products and recycled materials. The context for these definitions and the ensuing evaluation reference the mechanical processing of PCC and conversion into the first level of recovered materials (e.g., face fiber, backing fiber, PC4) for further recycling. It does not include collection and sortation, nor does it include the conversion into final products generally referred to as Tier 2 manufacturing in the Plan’s three-level recycling scheme.

It should be noted that while residential nylons and tile rank highest in the Table 6 matrix, commercial broadloom nylon ranked very low. This is a direct result of construction and processing considerations (throughput and yield). However, it is not practical, based on CSE feedback, to track this category during the sorting process. It is also highly desirable to enable the recycling of this class of nylon. Therefore, commercial broadloom nylons are included within the highest recyclable materials category, especially to facilitate the recovery of nylon 66 from this stream.

To monitor and refine highest recyclability on an ongoing basis, and consistent with Advisory Committee July 2018 recommendation 1.2, CARE will form a Highest Recyclability Committee composed of knowledgeable and experienced professionals in the areas of recycling technology, business and sustainable concepts. The work of this Highest Recyclability Committee will be shared with CalRecycle and the Advisory Committee. An initial goal of first report out will be set for July 2019. Once established the Highest Recyclability Committee will meet periodically (no less than annually) to further refine the criteria and evaluation of highest recyclability as technology and markets evolve.

Following are the description/definitions of the criteria used in Table 6.

**Ease of deconstruction** – How easily the PCC can be processed/disassembled into "pure" material components from a mechanical perspective (e.g., glued-down level loop commercial broadloom is much more difficult to deconstruct than cut pile, stretched-in residential carpet).

**Safely recycled all layer to similar or higher material performance** – Can material components be processed into the same or higher performance products in a manner that protects human and environmental health (e.g., a
material returned to the manufacture of new carpet or an under-hood plastics automotive part would be considered equal or higher value).

**Cost-effectiveness** – How cost-effective is it to process the materials to acceptable purity (e.g., mechanical separation vs. depolymerization). This is different from ease of deconstruction as it is an economic consideration (e.g., $/lb. of output). This considers the cost per pound of recycled output for various types of carpet and material components.

**Energy saving** – Does the recycling of the material use less energy and produce lower greenhouse gas emissions (e.g., depolymerization requires higher energy use than mechanical processing). High energy use would receive a low score, and low energy use would receive a high score, inclusive of energy use to transport the material for recycling processes.

**Identification of polymer type** – How easy is it to identify face fiber types for separation. (Examples include materials more likely to include back-labeling identification of polymer type would score higher; single polymer face fiber carpet products would score higher versus mixed polymers.)

**Extent of subsidy required** – How the current commodities market value influences the subsidy required to move the material in the marketplace. This criterion considers a variety of factors such as geographic source, costs of transportation, price of virgin materials, price and availability of post-industrial (PI) materials, price of competing post-consumer recycled content (PCRC) materials (e.g., PET bottle flake), quality, volume available, and consistency. Using the conversion cost model (summarized in the Subsidy Justification Model) where such data is available, this is the difference between the cost of recycling and the commodity’s scrap value for the recycled material, plus a reasonable financial return. It is a leading indicator of recyclability in terms of market acceptance and demand, and it fluctuates over time.

**Reusability** – How easily can the materials go to reuse, a higher level in the waste management hierarchy for post-consumer carpet.

**Recycled into new secondary product** – If not reuse or closed-loop recycling, considers whether or not there are available market options for secondary products. Materials that do not have available markets for secondary products and thus have to be landfilled would score lower versus those that do have strong secondary markets. For example, nylon 66
polymer has strong secondary available markets compared to wool, which currently has no known markets.

**Market potential for products upcycling** – Looking at the secondary product options for recycled output materials through the lens of highest and best use and potential for upcycling (recycling over and over in a closed loop versus downcycling as a single additional life). Three levels of options include:

- **Closed-loop recycling back into carpet** – Recycling of carpet face fiber back into carpet face fiber or backing back into backing (e.g., carpet tile, depolymerized nylon 6, PC4 if used in carpet backing).
- **Non-carpet closed-loop (recycled multiple times)** – A secondary, non-carpet product that is or can be recycled over and over (or in principle) (e.g., PC4 into cement, fiber pad, car parts, insulation, decking).
- **Downcycled (1-time)** – A one-time additional use of a material which then goes to landfill (e.g., materials more likely to go into one-time lower-end secondary applications, such as erosion control products, cat litter, etc.).

**Volume available** – How much of the material is available to be reused or recycled. This criterion is a lens to help understand the key drivers for recycled output volume, particularly from the viewpoint of the statute’s short-term goals. For example, PET and nylon 6 face fiber carpet represent 80% of all carpet sold, while PC4 represents 30-40% of the weight of a square yard of carpet and is in nearly all carpet made. Understanding volume availability is essential to knowing what market outlets can be built and supported on a sustained basis and has major implications for investment consideration. This is equivalent to prevalence in the waste stream.

**Potential for high yield** – When processed, how efficient is the processing/recovery; higher yield means higher recyclability and a reduction in disposal. For example: residential broadloom carpet typically has a higher yield per square yard vs. a low pile commercial broadloom carpet.
Subsidy Justification

The next step in ensuring that subsidies are structured to incentivize the recycling of all carpet materials required to achieve the statutory recycling goals, including those carpet materials with highest recyclability, is to use the Subsidy Justification Model (SJM). The SJM uses the following equation as the basis for the justification of subsidies.

\[
\text{Subsidy} = \text{Conversion Cost} - \text{PI Price} + 0.10/\text{lb.} + 15\% \text{ ROCC}^5
\]

The Sustainable Justification Model (JM) starts with the market price of a relevant competitive material that a post-consumer carpet material would need to displace in the market to be recycled, such as a Post-Industrial (PI) waste stream item. Recycled PI materials, for example, are typically of higher purity and are more readily available than post-consumer materials, and therefore are in higher demand than post-consumer materials in the marketplace. As a result, the post-industrial material creates a price ceiling over which the post-consumer price cannot go and is the basis for an analysis of what constitutes a necessary subsidy level to incentivize the recycling of post-consumer carpet (PCC) materials.

The average conversion cost of each subsidized carpet material is also introduced here, based on data gathered from recyclers of PCC and extensive cost modeling using the Conversion Cost Model (CCM), described in Attachment 9C. The CCM contains detailed estimates for multiple recycling processes. However, because the number of recyclers is so small, CARE is willing to review those details in a confidential session with CalRecycle in order to preserve confidential business and competitive information. An average estimated conversion costs is incorporated into the Subsidy Justification Model. The competitive material market price for each carpet material is subtracted from the PCC conversion cost for that respective material, revealing the amount per pound the subsidy needs to reach to achieve parity with PI materials. Knowing from compiled recent experience that parity is not sufficient to drive demand in the market for post-consumer materials, $0.10 per pound is added to represent the typical discount in market pricing for PCC materials relative to Competitive Materials (i.e., overcomes market resistance by motivating a user to switch from current material sourcing). This 10-cent per pound differential is based on extensive recycling market experience. This discount achieves a practical market parity in terms of the reality of recycled materials pricing and the

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5 ROCC = Return on Conversion Cost.
difference between PI and PC pricing seen across many recycled materials over many years.

The remaining factor is to add an amount sufficient to overcome investment resistance, or the return required to make investing in the recycling of carpet materials sufficiently attractive. Crowe Horwath, in work performed for CalRecycle on other commodity processing in California, documented an average 11.5% return on costs was sufficient to overcome this investment resistance. Based on dialog with experienced recyclers and realizing that PCC recycling is new and requires added stimulation to grow, CARE has determined that a 15% average return on investment should be sufficient to stimulate market movement of PCC materials (see Subsidy Justification for details, page 120). CARE will continue to examine this level of return and may make adjustments as deemed appropriate in the future. However, setting of subsidies is not a mechanical exercise as carpet recycling is not an exact science but rather informed by experienced market judgment. Therefore, some carpet materials may have subsidies that are more or less than the Subsidy Justification Model would dictate and are considered well within reasonable margins of error to ensure satisfaction of statutory goals.

The SJM is a guide in several ways. First, it provides a general outline for addressing market conditions, and it provides a view of subsidy levels against those market conditions. This provides clarity about the sufficiency of all subsidies. Second, it allows CARE to confirm that the carpet materials identified in the highest recyclability criteria (Table 6) as having the highest recyclability are in fact being subsidized at a level that incentivizes the recycling of those materials, per the Carpet Stewardship Laws.

It should be noted that despite some stakeholder input, the Carpet Stewardship Laws do not require that carpet materials with the highest recyclability be subsidized more or less relative to any other carpet material under the Plan. The Laws also do not require the Plan to incentivize only the single carpet material that might be deemed “highest recyclable.” The Carpet Stewardship Laws simply require that those materials with the highest recyclability be subsidized under the Plan to incentivize the recycling of those materials.

The subsidies under this Plan, as informed by Table 6 above and Table 7 below, incentivize recycling of carpet materials with highest recyclability consistent with the Carpet Stewardship Laws, and allow for movement in the marketplace of all PCC materials toward achieving the statutory recycling
goals. In addition, this Plan voluntarily provides a supplemental 5 cents/lb. subsidy for N6 and N66 beginning in 2019 (shown in Table 8 and included in Table 7). Though this highest recyclability voluntary incentive is not required to incentivize the recycling of these materials, CARE is adding it based on feedback CARE received from CalRecycle and the Advisory Committee; the relative ranking of these materials in the current Table 6 defining highest recyclability; and CARE’s commitment to no subsidy reductions in the years 2018 and 2019. Thus, although our SJM indicates N66 requires no subsidy at all due to its value in the marketplace, CARE will continue to maintain a N66 subsidy, including an additional 5 cents/lb. highest recyclability voluntary incentive. This 5 cents/lb. highest recyclability voluntary incentive level for N6 and N66 will remain in place pending further updates to the SJM based on market performance in the 2019 timeframe.

Since CARE is committed to making no reductions in subsidies before January 1, 2020, there is time for the continued development of the CCM and SJM which has already gone through several iterations as the complexities of this marketplace continue to be revealed. CARE plans to update the SJM semi-annually and will review recommended changes in subsidies with CalRecycle prior to any changes being implemented and consistent with notification requirements.

The Subsidy Justification Model (Table 7) is a summary of the Conversion Cost Model outputs along with consideration of the current market pricing, return on conversion costs required to meet the 15% ROCC, and the resulting subsidy analysis. In addition, Table 7 compares those recommended subsidies to the current subsidies and details the delta. Numbers greater than zero in column J signify subsides that currently are paid out at a higher rate than the SJM would suggest are necessary to compete in the marketplace. CARE does not believe this represents overfunding the Plan, but rather the necessary subsidy levels to stimulate the recycling of carpet materials in an industry that inherently requires more time and technology to reach a sufficient level of maturity.
Table 7. Subsidy Justification Model (cost per pound)

<table>
<thead>
<tr>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitive Materials Market Price</td>
<td>PCC Discount</td>
<td>PCC Materials Market Price</td>
<td>PCC Conversion Cost</td>
<td>15% Return on Conv. Cost</td>
<td>Conversion Cost + 15% Return</td>
<td>Subsidy Required to Incentive PCC Materials</td>
<td>PCC Materials Subsidy from Table 8</td>
<td>Subsidy Difference</td>
</tr>
<tr>
<td>Nylon 6 pellets</td>
<td>$0.70</td>
<td>$0.10</td>
<td>$0.60</td>
<td>$0.72</td>
<td>$0.11</td>
<td>$0.83</td>
<td>$0.23</td>
<td>$0.25</td>
</tr>
<tr>
<td>Nylon 6 Fiber</td>
<td>n/a</td>
<td>n/a</td>
<td>$0.25</td>
<td>$0.30</td>
<td>$0.05</td>
<td>$0.35</td>
<td>$0.10</td>
<td>$0.15</td>
</tr>
<tr>
<td>Nylon 66 pellets</td>
<td>$1.00</td>
<td>$0.10</td>
<td>$0.90</td>
<td>$0.72</td>
<td>$0.11</td>
<td>$0.83</td>
<td>-0.07</td>
<td>$0.25</td>
</tr>
<tr>
<td>Nylon 66 Fiber</td>
<td>n/a</td>
<td>n/a</td>
<td>$0.25</td>
<td>$0.30</td>
<td>$0.05</td>
<td>$0.35</td>
<td>$0.10</td>
<td>$0.15</td>
</tr>
<tr>
<td>PET Pellets</td>
<td>$0.47</td>
<td>$0.10</td>
<td>$0.37</td>
<td>$0.72</td>
<td>$0.11</td>
<td>$0.83</td>
<td>$0.46</td>
<td>$0.35</td>
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<tr>
<td>PET Fiber</td>
<td>$0.25</td>
<td>$0.10</td>
<td>$0.15</td>
<td>$0.30</td>
<td>$0.05</td>
<td>$0.35</td>
<td>$0.20</td>
<td>$0.35</td>
</tr>
<tr>
<td>PP Pellets</td>
<td>$0.35</td>
<td>$0.10</td>
<td>$0.25</td>
<td>$0.45</td>
<td>$0.07</td>
<td>$0.52</td>
<td>$0.27</td>
<td>$0.35</td>
</tr>
<tr>
<td>PC4</td>
<td>$0.02</td>
<td>$0.10</td>
<td>-0.08</td>
<td>$0.05</td>
<td>$0.01</td>
<td>$0.06</td>
<td>$0.14</td>
<td>$0.17</td>
</tr>
</tbody>
</table>

1. The following competitive materials were used for each carpet material's Competitive Materials Market Prices:
   a. Nylon 6 Pellets – PI pellets. (Source: Direct market Buy/Sell transactions with nylon compounders who use PI carpet fibers for the bulk of their compounding resins.)
   b. Nylon 6 Fiber – N/A due to no suitably competitive material; these are one-off transactions.
   c. N66 Pellets – PI pellets. (Source: Direct market Buy/Sell transactions with nylon compounders who use PI carpet fibers for the bulk of their compounding resins.)
   d. Nylon 66 Fiber – N/A due to no suitably competitive material.
   e. PET Pellets – Recycled pellets from bottle flake. (Source: Major PET processing company which deals with all forms of PET resins; PET is their only business. Prices were cross-checked with PET flake manufacturers.)
   f. PET Fiber – Bottle flake. (Source: Large PET bottle flake processors.)
   g. PP Pellets – PI pellets. (Source: Processors of PP recycled materials. PP is a wide-ranging resin from homopolymers to co-polymers. Some resins have low-melt characteristics; others have high-melt characteristics. Prices in this grid reflect low-melt homopolymers with the same melt characteristics as the PP homopolymer in carpet backings.)
   h. PC4 – virgin calcium carbonate. (Source: Major virgin and PI PC4 supplier to the carpet industry.)
   i. Calculations start in column D with the current market price for PCC fiber.

2. Conversion Costs exclude shipping.
3. Use 15% ROCC based on reasonable return and shipping negotiations.
4. PCC materials subsidy is total of Processor + Manufacturer.
5. Numbers greater than 0 mean subsidy is justified as sufficient to subsidize.
6. Green cells represent the highest recyclability materials per Table 6.
7. All costs are $/lb. finished goods (yielded).
8. Numbers may be off slightly due to rounding.
As can be seen from the Subsidy Justification Model in Table 7 above, each carpet material for which there are subsidies paid is above the level required to incentivize the recycling of that carpet material, with the exception of PET pellets which are not currently being produced. However, CARE is aware of several PET processors who will require a high purity PET in densified form, thus they have been included for analysis purposes. Should PET pellets become available in the future CARE can revisit this subsidy level.

The data supporting columns B through F is derived from a variety of sources, including market knowledge based on recycler feedback, estimated costs derived from the Conversion Cost Model (see Attachment 9C for a more detailed description of the CCM), and confidential recycler information. CARE will review this detailed and confidential data with CalRecycle in a closed, confidential session at CalRecycle’s request to further support the Subsidy Justification Model.

The Subsidy Justification Model and the Conversion Cost Model and supporting data will be updated every 6 months. In the event subsidy reductions or eliminations are justified based on market conditions beyond 2019, CARE will notify recyclers of such changes consistent with the Plan provisions. If market conditions justify an increase in a subsidy, CARE can respond and effect that change within 1-2 quarters.

Note that items highlighted in dark green are recognized as the highest recyclable materials according to Table 6. As such, and as explained above, they receive an added incentive of 5 cents/lb. versus non-highest recyclability materials.
Current Subsidies for Broadloom PCC Materials

Table 8 documents the current subsidies being paid on PCC materials according to the general categories of Residential and Commercial Broadloom. These current subsidy levels, as justified in the Subsidy Justification Model above, are also shown to be working as demonstrated by the growing recycling rate over recent quarters and the new capacity that is coming on line.

Table 8. Subsidies for Processing Residential and Commercial Broadloom ($/pound)

<table>
<thead>
<tr>
<th></th>
<th>Tier 1 Processor Subsidy</th>
<th>Tier 1 H. R. Subsidy</th>
<th>Tier 2 Mfg. Subsidy</th>
<th>Total Subsidy for SJM Column I</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Broadloom</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N66</td>
<td>$0.10</td>
<td>$0.05</td>
<td>$0.10</td>
<td>$0.25</td>
</tr>
<tr>
<td>N6</td>
<td>$0.10</td>
<td>$0.05</td>
<td>$0.10</td>
<td>$0.25</td>
</tr>
<tr>
<td>PP</td>
<td>$0.10</td>
<td>$-</td>
<td>$0.25</td>
<td>$0.35</td>
</tr>
<tr>
<td>PET</td>
<td>$0.10</td>
<td>$-</td>
<td>$0.25</td>
<td>$0.35</td>
</tr>
<tr>
<td>PC4</td>
<td>$0.17</td>
<td>$-</td>
<td>n/a</td>
<td>$0.17</td>
</tr>
<tr>
<td>Commercial Broadloom</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N66</td>
<td>$0.12</td>
<td>$0.05</td>
<td>$0.10</td>
<td>$0.27</td>
</tr>
<tr>
<td>N6</td>
<td>$0.12</td>
<td>$0.05</td>
<td>$0.10</td>
<td>$0.27</td>
</tr>
<tr>
<td>PP</td>
<td>$0.12</td>
<td>$-</td>
<td>$0.25</td>
<td>$0.37</td>
</tr>
<tr>
<td>PET</td>
<td>$0.12</td>
<td>$-</td>
<td>$0.25</td>
<td>$0.37</td>
</tr>
<tr>
<td>PC4</td>
<td>$0.17</td>
<td>n/a</td>
<td>n/a</td>
<td>$0.17</td>
</tr>
</tbody>
</table>

Conversion Costs v 8-09-18
Current Subsidies for Commercial Tile

Table 9 shows the current subsidies for Commercial Tile products according to face fiber type. The vast majority of commercial tile is constructed with N6 or N66 face fiber. These subsidies are shown on a per square yard basis as well as on a per pound basis, as recycling projects and products are frequently quoted on a per square yard basis on the commercial market.

Table 9. Current Subsidies for Carpet Tile PCC Materials

<table>
<thead>
<tr>
<th>Subsidy/lb.</th>
<th>Subsidy/lb</th>
<th>Subsidy/lb</th>
<th>Subsidy/lb</th>
<th>Subsidy/lb</th>
</tr>
</thead>
<tbody>
<tr>
<td>N66 (tile)</td>
<td>$0.15</td>
<td>$0.05</td>
<td>$0.10</td>
<td>$0.05</td>
</tr>
<tr>
<td>N6 (tile)</td>
<td>$0.15</td>
<td>$0.05</td>
<td>$0.10</td>
<td>$0.05</td>
</tr>
<tr>
<td>PP (tile)</td>
<td>$0.15</td>
<td>$0.05</td>
<td>$0.10</td>
<td>-</td>
</tr>
<tr>
<td>PET (tile)</td>
<td>$0.15</td>
<td>$0.05</td>
<td>$0.10</td>
<td>-</td>
</tr>
</tbody>
</table>

Unlike broadloom PCC, Commercial Tile is either reused or recycled into new tile by the tile manufacturers themselves. Therefore, competitive materials market data and cost conversion data is not available. As a result, setting of subsidies for tile, and the pursuant justification, has to occur through a different process.

To incentivize the recycling of carpet tile, collector/sorters and processors (the manufacturers themselves) receive incentives for recycling the materials as shown in Table 9.

Collector/sorters who collect tile have two outlets for that tile.

- First, they can arrange for it to be re-used and receive a $0.15/lb. subsidy from CARE for doing so. This subsidy is more than sufficient to cover the collector/sorter’s costs associated with recovering that material from a commercial demo project, in which the collector/sorter can also charge a party involved with the project for their recycling service. This subsidy is intended to incentivize the collector/sorter to collect as much commercial tile as possible, and further to reuse as
much commercial as possible in line with the waste management hierarchy.

- Second, if the material is not suitable for re-use they can send the tile material to a tile manufacturer that recycles that particular type of tile and receive a $0.05/lb. subsidy from CARE. This subsidy is more than sufficient to cover the collector/sorter’s costs associated with recovering that material from a commercial demo project, in which the collector/sorter can also charge a party involved with the project for their recycling service. Most tile manufacturers have an established take-back program and will accept tile material from collector/sorters if that material is prepared according to their take-back specifications.

Processors for carpet tile materials at this time are carpet tile manufacturers who recycle the tile they receive back into new tile. As such this carpet tile is recycled closed loop into new carpet tile.

Processors have pre-existing take-back programs for their commercial tile products that were established for environmental, economic and/or competitive reasons. Therefore, CARE’s role is to incentivize these programs with a sufficient amount to overcome the freight cost differential created by recycling carpet from California as opposed to regions closer to the Southeast U.S. where most of their re-processing takes place. $0.10 per pound is sufficient to overcome this freight cost difference and incentivize these companies to take more carpet tile material from CA. Also, the same additional $0.05/lb. incentive described above for the materials identified as the most recyclable applies to commercial carpet tile made from N6 and N66.
Current Subsidies for PCC Collection (Residential)

CARE provides a subsidy for collector/sorters and/or processors collecting California carpet as detailed in Table 10 below.

Table 10. Current Subsidies for PCC Collection ($/pound)

<table>
<thead>
<tr>
<th>Residential</th>
<th>CSE</th>
<th>Processor</th>
</tr>
</thead>
<tbody>
<tr>
<td>N66</td>
<td>$0.02</td>
<td>$0.02</td>
</tr>
<tr>
<td>N6</td>
<td>$0.02</td>
<td>$0.02</td>
</tr>
<tr>
<td>PP</td>
<td>$0.02</td>
<td>$0.02</td>
</tr>
<tr>
<td>PET</td>
<td>$0.02</td>
<td>$0.02</td>
</tr>
</tbody>
</table>

The consistent feedback CARE has gotten from the collector/sorter community is that the collector/sorters can collect all the carpet needed to support the program. As such, a collection subsidy may not be completely warranted. However, due to the fragile economic nature of the collection infrastructure and in the interests of serving the overall objectives of the Carpet Stewardship Laws, CARE has elected to provide this subsidy on an ongoing basis. It assists collector/sorters in covering their collection costs in addition to the revenue they receive from dealers for charging for their recycling services.

This collection subsidy is also consistent with the Voluntary Product Stewardship (VPS) subsidy CARE implements and manages on behalf of CRI that incentivizes collector/sorters in the US outside of CA.

The Conversion Cost Model will be updated every 6 months. Should an increase in any category be indicated, CARE will move within 1-2 quarters to effect that change. In the event subsidy reductions or eliminations are justified based on market conditions, CARE will notify recyclers of such changes consistent with the Plan provisions. If market conditions dictate an increase in a subsidy, CARE can respond relatively quickly to such a scenario.

Performance-based Payouts

The Program is performance-based, so payouts are issued based on pounds of materials sold and shipped (or donated in the case of reuse). Material placed in inventory is not subsidized, but it is tracked. Participants must
maintain records to substantiate all material-handling and sales claims, submit to AUP reviews, and meet other program requirements as described in participant agreements. This concept is discussed further under the Financial Assurances section later in this chapter.

**Tiered Payouts**

Tiered payouts are a market-driven approach to subsidy payments that automatically steps down payouts to individual participants above certain quantity thresholds at regular pre-identified intervals. As recycled output quantities increase, payouts are incrementally reduced at higher quantity levels. The purpose of tiered payouts is to provide a mechanism to control costs as recycled output continues to grow, the market gains acceptance of the particular recycled products, and the need for subsidies is balanced against the harm to the carpet market resulting from an ever-increasing escalation in the assessment not correlated with better carpet recycling outcomes.

In response to Advisory Committee recommendations February 2018 2b-1 and 2b-2, the new Plan sets Tier 4 funding at a higher level (varies with each subsidy category) and has increased the monthly increment to 2 million pounds per month. The Tiers apply individually to each product category. For example, Nylon 6 Type 1 output at 2.6 million lbs./month would be eligible for the Tier 1 subsidy on the first 2 million pounds and the Tier 2 subsidy on the additional 0.6 million pounds. The same company may also be shipping PC4 at 1.5 million lbs./month and would be eligible for the separate Tier 1 subsidy on all 1.5 million pounds of the PC4 shipments monthly. In the event of multiple facilities, and since the Tiers are product-focused, a company with multiple facilities would report total product output for the month from all facilities. Due to the increase in the Tier increments (moving to 2 million lbs./month) and Tier 4 being increased, this effectively removes any form of cap from the subsidies.

Historically CARE has considered non-nylon to include PET, PTT, and PP. Consistent with Advisory Committee recommendation February 2018 2b-3 and effective with this Plan, CARE will separate the category into two groups: PET/PTT and separate PP.

The following table reflects the changes in the Tier table for subsidy funding. Note that Tiers and subsidies may be changed in the future consistent with the subsidy guarantee in place at the time.
Table 11. Tiered Subsidy Increments (current as of 8-11-2018) ($/pound)

<table>
<thead>
<tr>
<th>Type 1 - Tier 1 Processed Fiber - N6, N66, PET, PP</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate 1 pounds First 2,000,000</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.080</td>
</tr>
<tr>
<td>Rate 2 pounds Second 2,000,000</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.080</td>
<td>$0.080</td>
<td>$0.080</td>
<td>$0.080</td>
<td>$0.080</td>
</tr>
<tr>
<td>Rate 3 pounds Third 2,000,000</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.050</td>
<td>$0.050</td>
<td>$0.050</td>
<td>$0.050</td>
<td>$0.050</td>
</tr>
<tr>
<td>Rate 4 pounds &gt; 6,000,000</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.020</td>
<td>$0.020</td>
<td>$0.020</td>
<td>$0.020</td>
<td>$0.020</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tier 1 Sifted PC4</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate 1 pounds First 2,000,000</td>
<td>$0.170</td>
<td>$0.170</td>
<td>$0.170</td>
<td>$0.160</td>
<td>$0.150</td>
<td>$0.140</td>
<td>$0.140</td>
</tr>
<tr>
<td>Rate 2 pounds Second 2,000,000</td>
<td>$0.170</td>
<td>$0.170</td>
<td>$0.120</td>
<td>$0.110</td>
<td>$0.110</td>
<td>$0.110</td>
<td>$0.110</td>
</tr>
<tr>
<td>Rate 3 pounds Third 2,000,000</td>
<td>$0.170</td>
<td>$0.170</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
</tr>
<tr>
<td>Rate 4 pounds &gt; 6,000,000</td>
<td>$0.170</td>
<td>$0.170</td>
<td>$0.050</td>
<td>$0.050</td>
<td>$0.050</td>
<td>$0.050</td>
<td>$0.050</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type 1 Commercial Broadloom Incentive - N6, N66, PET, PP (Pilot beginning 07/01/18)</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate 1 pounds First 2,000,000</td>
<td>$0.000</td>
<td>$0.020</td>
<td>$0.020</td>
<td>$0.020</td>
<td>$0.020</td>
<td>$0.020</td>
<td>$0.020</td>
</tr>
<tr>
<td>Rate 2 pounds Second 2,000,000</td>
<td>$0.000</td>
<td>$0.020</td>
<td>$0.020</td>
<td>$0.020</td>
<td>$0.020</td>
<td>$0.020</td>
<td>$0.020</td>
</tr>
<tr>
<td>Rate 3 pounds Third 2,000,000</td>
<td>$0.000</td>
<td>$0.020</td>
<td>$0.020</td>
<td>$0.020</td>
<td>$0.020</td>
<td>$0.020</td>
<td>$0.020</td>
</tr>
<tr>
<td>Rate 4 pounds &gt; 6,000,000</td>
<td>$0.000</td>
<td>$0.020</td>
<td>$0.020</td>
<td>$0.020</td>
<td>$0.020</td>
<td>$0.020</td>
<td>$0.020</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tier 1 - Nylon 6 (Pilot beginning 10/01/17) + N66 (beginning 01/01/19)</th>
<th>10/1/2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate 1 pounds First 2,000,000</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
</tr>
<tr>
<td>Rate 2 pounds Second 2,000,000</td>
<td>$0.080</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
</tr>
<tr>
<td>Rate 3 pounds Third 2,000,000</td>
<td>$0.060</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
</tr>
<tr>
<td>Rate 4 pounds &gt; 6,000,000</td>
<td>$0.000</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.040</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HR Incentive (Currently defined as N6 &amp; N66)</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>N6 All pounds n/a</td>
<td>n/a</td>
<td>$0.050</td>
<td>$0.050</td>
<td>$0.050</td>
<td>$0.050</td>
<td>$0.050</td>
<td></td>
</tr>
<tr>
<td>N66 All pounds n/a</td>
<td>n/a</td>
<td>$0.050</td>
<td>$0.050</td>
<td>$0.050</td>
<td>$0.050</td>
<td>$0.050</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recycled/Recycled *D + .05 growth incentive - Incentive Pilot (05/01/18)</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate 1 pounds First 2,000,000</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
</tr>
<tr>
<td>Rate 2 pounds Second 2,000,000</td>
<td>$0.080</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
</tr>
<tr>
<td>Rate 3 pounds Third 2,000,000</td>
<td>$0.060</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
</tr>
<tr>
<td>Rate 4 pounds &gt; 6,000,000</td>
<td>$0.000</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.100</td>
<td>$0.040</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CSEs Collections</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Carpet Shipped/Sold subsidy</td>
<td>$0.02</td>
<td>$0.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Processor Collections</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Carpet Shipped/Sold subsidy</td>
<td>$0.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Additional Subsidies Buffer *</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpet Assessment &amp; Sales per year by sq. yd.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessment per sq. yd.</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.35</td>
<td>0.35</td>
<td>0.35</td>
<td>0.35</td>
</tr>
<tr>
<td>Total Sales - sq. yd.</td>
<td>$0,000,000</td>
<td>$0,000,000</td>
<td>$0,000,000</td>
<td>$0,000,000</td>
<td>$0,000,000</td>
<td>$0,000,000</td>
<td>$0,000,000</td>
</tr>
<tr>
<td>CalRecycle Administrative Fee %</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Market *</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Replacement rate (r)</td>
<td>0.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average weight of carpet per square yard (p)</td>
<td>4.39</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of lbs of carpet from demolition projects not replaced (d)</td>
<td>0.005</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of lbs of carpet from deselection projects not replaced (d)</td>
<td>0.005</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Percentage of yearly sales*</th>
<th>Jan</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpet Assessment &amp; Sales per year by sq. yd.</td>
<td>7.8%</td>
<td>7.9%</td>
<td>8.8%</td>
<td>8.8%</td>
<td>8.8%</td>
<td>8.9%</td>
<td>8.9%</td>
<td>7.8%</td>
<td>7.8%</td>
<td>7.8%</td>
<td>7.8%</td>
<td>92.2%</td>
</tr>
</tbody>
</table>

* Based on 2016 sales
**Subsidy Stacking**

Participants may be eligible for one or more incentives and/or subsidies on a single pound of material, based on the activity or activities being performed. For example, as to how multiple subsidies may be applied to a pound of carpet collected, see *Attachment 8. Description of Subsidy Flow and Stacking.*

**Subsidy Guarantee**

All subsidies offered are subject to a 12-month guarantee. In other words, the subsidies will not be reduced or eliminated without providing subsidy recipients with a detailed notice released a minimum of 12 months before a reduction goes into effect. The detailed notification is consistent with Advisory Committee recommendation February 2018 2a-2. This element of the Plan is designed to reduce risk for investment and provide the ability to plan in terms of cash flow. However, as suggested by Advisory Committee recommendation February 2018 2a-1, CARE understands and appreciates the concerns of the AC, the recycling community and the carpet manufacturers regarding duration of guarantees. At the same time, Plan flexibility is paramount to being able to respond to market changes. Therefore, CARE implemented a 1-year moratorium of any subsidy reductions, which resulted in a 2-year guarantee for the first two years of the Plan commencing January 1, 2018. As an example, under this commitment the first time CARE could offer a 1-year notice of change would be January 1, 2019, for implementation January 1, 2020, if a reduction were considered appropriate. It should be noted in the current version of the Plan, there are subsidy reductions in later years, which may or may not be implemented depending on progress on achieving program goals.

In September 2016, CARE issued a notice to participants that CARE is conducting a review of all subsidy offerings for collector/sorters, processors, and manufacturers. This is a reflection of the significant number of potentially valuable Program elements gained from the input of the Council, a recognition of a need for greater future flexibility to quickly react to market conditions as strongly encouraged by CalRecycle, the need to adjust individual program elements to take advantage of learnings of Program experiences, and the current expectation that all incentives put into effect in 2016 will have the desired results of significantly increasing recycled output in 2017, 2018 and beyond.
Effective October 2017 (12 months from the end of the third quarter of 2016), CARE had the ability to enact adjustments to subsidy program offerings. However, CARE elected not to make any reductions or eliminations to the existing subsidies during this Plan extension period. The only exemptions to this are the two energy recovery subsidies (CAAF and Kiln), which were previously identified for elimination effective January 1, 2018 and now consistent with the Carpet Stewardship Laws. Any other changes to subsidies will be effective upon approval of this new Plan, assumed to be October 2018, and implemented the first quarter after approval (anticipated January 1, 2019). CARE retains the ability to adjust individual subsidies upward at any time, subject to other requirements or limitations within the Program and consistent with fund cash flow. Worthy of note are the three new pilot subsidies implemented under the current Plan while the new Plan is being approved including: tile collections, N6 Tier 2, and commercial carpet processing.

For the purposes of this Plan, the following payout changes are adopted:

- CAAF subsidy is discontinued, effective January 2018
- Kiln subsidy is discontinued, effective January 2018
- Tiered Payouts for Type 1, PC4, Tier 2 Non-Nylon and Tier 2 Nylon are adopted, effective with the approval of this new Plan.

Since different pilots begin at different times, CARE agrees with Advisory Committee recommendation February 2018 2d-2 and will guarantee renewal of any existing 6-month pilot for an additional six months upon Plan approval.

Under this new Plan and given the new monthly and quarterly analysis being implemented, CARE expects to have adequate insights into financial impacts to be able to operate with sufficient time to ensure a dialog with the new Advisory Committee before changes are necessary. However, should a major shift occur, CARE reserves the right to act swiftly to deal with any situation to protect recyclers and the fund balance. It should be noted that given the current fund balance and anticipated assessment increases planned, such action is deemed highly unlikely.

Incentives listed below (reporting incentives, processor growth incentive, manufacturer non-nylon growth incentive, or other incentives, which are distinguished from subsidies, as developed over the course of this Plan) are not subject to this timeline guarantee. It should be noted that both growth
incentives were deactivated as of January 2017. CARE retains the ability to reactivate incentives and/or adjust relevant bonus thresholds moving forward, on a quarterly basis. Such program changes will be discussed with the Advisory Committee and CalRecycle prior to implementation and subject to timely responsiveness to market needs.

**Subsidy Caps**

Subsidy caps on collector/sorters have been eliminated under this new Plan and became effective January 1, 2018. There are in effect subsidy limits on processors and manufacturers under the Tiered approach. Tiers are structured in 2 million-pound increments and are calculated monthly for each individual subsidy category.

**Reserve Funds**

This Plan provides for a reserve equal to a two-month average of total program expenses over the last quarter (last 3 months divided by 3 times 2). Total expenses include subsidies, incentives, program expenses and administrative expenses, including the CalRecycle fee. CARE tracks actual vs. budget differences and fund balance on a monthly basis and including trends analysis. CARE will be able to identify any trend of a potential budget deficiency with ample lead time (defined as multiple quarters) to implement an assessment increase (90-day notification) if required. CARE notes the State of California requires a statutory budget reserve of no more than 10%. CARE estimates that a 2-month reserve significantly exceeds such an estimate based on our Financial Model calculations.6

The reserve functions as part of the Program’s financial assurance mechanisms. This is an update to previous reserve descriptions of a one-quarter average of subsidy payouts, balancing both financial assurance and ready deployment of public funds to support Program goals. This reduced reserve requirement will assist CARE in managing program funds over the course of the Plan term. The Program’s Financial Model enables CARE to calculate and forecast this reserve on an ongoing basis. CARE provides an excellent and transparent history of reserve levels in its quarterly reports.

6 Proposition 2, Rainy Day Budget Stabilization Fund Act, passed in 2014, created a rainy-day fund with a firm cap on how much cash can be held in reserve: no more than 10% of California’s general fund tax collections (Sections 20-22 of Article XVI of the California Constitution).
Financial Assurances

All subsidies are paid based on output: material that leaves the facility as a shipped and sold/donated feedstock or finished product (e.g., sorted/baled whole carpet or carpet tile, fiber, PC4, finished recycled product, etc.). In this way, CARE is assured that program funds are being paid for performance and precise pounds of managed material, not estimated pounds which may be received. Recipients further maintain records, bills of lading, invoicing and other documents reviewable by the Program and third-party accounting firm as a financial safeguard, mechanism for fraud prevention, and fund assurance.

Since the Program began, CARE has adopted a series of financial assurance mechanisms to ensure proper stewardship of the fund. These assurances were summarized in memos to CalRecycle, dated March 2014 and July 2014. Fraud protections were summarized in the third quarter of 2016 and are on file with CalRecycle. CARE is further subject to third-party and CalRecycle audit on an annual basis. Performance and financial audits are presented within annual reports. CARE responds to CalRecycle audits by request. Over time CARE implemented a series of controls including a participant agreement process in which assurances and safeguards such as reporting procedures, records retention, attestations, protocols, AUPs, and other terms and requirements under this program are outlined in a legal contract with participants. Such documents are available to CalRecycle upon request. Current agreements were effective January 2018, with a two-year implementation term. Under this Plan, all participants will be required to sign new agreements effective January 1, 2020, and as updated from time to time over the term.
Fraud Prevention and Risk Management

The Program has been continuously improving internal controls as well as the AUP and review processes. The following list of program enhancements have been put into practice over the last 24 months in an effort to further reduce the likelihood of fraud.

1. Formal legal contracts with all Carpet Mills, collectors/sorters, processors, and manufacturers that lays out all requirements of participation and reporting.

2. Enhanced AUP reviews carried out by Aprio (formerly Habif, Arogeti & Wynne), the Program’s accounting firm. Current AUP documentation may be found in Attachment 12.

3. New member start-up package and visit by CARE staff to inspect facilities before joining the Program.

4. Random visits by CARE Team members to view facility and pull samples for testing.

5. Enhanced testing for moisture (weight correction) and ash content (including analysis of data by a Ph.D. statistician).

6. Enhanced reporting sheets to examine material balances.

7. Shift to monthly reporting for improved and timely data visibility and trend analysis.

8. Implemented threshold targets for pounds of PCC and processed good inventory to automatically flag participants that are above targets.

9. Set percentage threshold targets from month to month on both PCC and processed goods inventories to automatically flag participants that are above targets.

Pilot Approach to New Subsidies

Under this Plan, and adopting an Advisory Council recommendation, new subsidies or other strategies may be activated as pilot initiatives. If a pilot is activated under this plan, a pilot period will be identified. This period will generally be 6 months, although CARE may set a shorter or longer pilot period based on the context of each initiative. In general, the pilot period is intended to be long enough that the program can collect initial data to evaluate the effectiveness or viability of the approach, and short enough to allow CARE to be responsive to dynamically changing market conditions.
Data to be collected by each pilot will vary based on each initiative. CARE will use tools such as but not limited to surveys, monthly/quarterly reports, outreach notes, and Advisory Committee or stakeholder consultation to obtain information about the effectiveness of each pilot. Data collected may include such information as pounds collected/processed, number of participants, percent interested, service/participant changes, new capacity developed, new purchase orders, and cost effectiveness.

Under this Plan, three new subsidies are included as pilots: Tier 2 Nylon 6 Recycled Product subsidy effective October 1, 2017. Nylon 66 will be added effective with implementation of this Plan. Collector/Sorter Tile Collection Subsidy effective January 1, 2018, and a Commercial Broadloom Type 1 RO Subsidy, effective July 1, 2018. However, due to implementation definitions and verification issues, the Commercial Broadloom Type 1 RO Subsidy Pilot will be suspended until such time as operational issues can be defined. This is anticipated by end Q4 2018. Pilots will run through six months and be evaluated primarily based on data submitted by subsidy participants via monthly reporting. Data is received 30 days after the close of each month and reviewed by staff within 60 days. Quarterly data is consolidated and reviewed within 60 days after the close of each quarter. CARE may also consider participant surveys, feedback from participant consultation, input from the Advisory Committee, macroeconomic data or trends, or other factors.

On a monthly basis, CARE will track trends in each pilot subsidy over the previous month and will summarize results at the end of the 6-month pilot. Increases in material flow (number of pounds associated with each subsidy) will be viewed as a positive indicator of the value of the subsidy and may lead CARE to continue the subsidy as a full program element (remove the pilot designation) and/or consider a potential adjustment in the subsidy amount.

Flat or decreased material flow is subject to interpretation by CARE based on this and other factors and may indicate that the subsidy is not set at an appropriate level or that the subsidy is not effective. Under such instances, CARE may use economic data, participant feedback, or other data to increase or otherwise modify the subsidy level; determine that more time is needed to assess the effectiveness of the subsidy; or elect to reallocate resources to an alternative program area such as another subsidy, grants, technical assistance, R&D, or other strategy area. Proposed changes to these subsidies will follow the normal review and notification process.
identified elsewhere in the Plan, although the pilot designation allows CARE to decrease or eliminate pilot subsidies without being subject to the 12-month guarantee. CARE will review these changes with the Advisory Committee and provide notice for any changes adopted following the pilot period.

For pilot subsidies which were initiated January 1, 2018, CARE will review results of the 6-month pilot by September 2018; consult the Advisory Committee as needed; make recommendations to SPC to continue, modify, or discontinue the subsidy element; and release notice of changes effective for October 1, 2018 (Q3) or thereafter as appropriate.

**Covered Activities**

To support carpet recycling and reuse, the Program offers subsidies for the following activities, as described further below:

- Collection and sorting
- Reuse
- Processing
- Recycled content manufacturing

A complete summary of all current and pilot subsidies is presented in *Attachment 7. Summary of Subsidies and Pilots.*

**Overview of Subsidy Changes**

A summary of high-level changes to the Program’s subsidy offering is presented below. All changes adopted below are contained within 2016 Council priorities and were included in the Council’s 2017 top nine recommendations to the SPC. All subsidies included in the prior plan are continued under this Plan, unless otherwise noted.

This Plan activates three new subsidies as pilots, in line with recommendations of the Council (see *Attachment 7* for additional details):

- Collector/Sorter Tile Collection subsidy (5 cents/lb.) – designed to drive both reuse and recycling of carpet tile currently representing less than 5% of total recycled output. Effective date: January 1, 2018
• Commercial Recycled Output Pilot subsidy (2 cents/lb.) – designed to drive recycling of commercial broadloom carpet currently representing a very small fraction of total recycled output. Effective date: July 1, 2018. [Note: this pilot is suspended; see page 136 for more information.]

• Tier 2 Nylon 6 and Nylon 66 subsidies (10 cents/lb.) – designed to drive secondary markets for recycled-carpet-content products made with nylon 6 type 1 recycled output and respond to currently poor markets effecting the movement of nylon 6 in the marketplace. Effective date: October 1, 2017

This Plan also activates a new voluntary highest recyclability incentive for the currently defined highest recyclability material. Currently this applies to nylon 6 and nylon 66 for both broadloom and tile constructions.

• Voluntary highest recyclability incentive (5 cents/lb.) – designed to incentivize those materials designated in Table 6 as the highest recyclable (may change in the future). Effective date: January 1, 2019

This Plan discontinues two existing subsidies, consistent with recommendations of the Advisory Committee:

• CAAF subsidy – deactivated to reallocate these funds to higher use outlets. Effective date: January 1, 2018

• Kiln subsidy – deactivated to reallocate these funds to higher use outlets. Effective date: January 1, 2018

Collection and Sorting

Collector/Sorters (also known as CSEs, for collector/sorter entrepreneurs) are currently eligible to receive a broadloom collection subsidy, carpet tile collection subsidy, as well as reuse subsidies (see the Reuse section on page 141 for more detail). Reuse subsidies are payable for pounds of broadloom carpet and carpet tile collected, sorted, and shipped/sold/donated for reuse only. A broadloom collection subsidy is payable for pounds of broadloom whole-carpet collected, sorted, sold, and shipped to a processor for recycling while the new tile collection subsidy is payable on pounds of carpet tile collected, sorted, sold, and shipped to a processor for recycling or sold/donated from reuse. As collector/sorters are not involved in processing, they are not eligible to receive recycling and manufacturing subsidies. Only collector/sorters are eligible for the reporting incentive.
The new pilot carpet tile collection subsidy is adopted given the small amount of such material currently being managed by the program and that tile weighs on average 2 times that of broadloom, this subsidy is designed to encourage increased carpet tile collection, reuse and recycling as a major new area for increasing the Program’s recycling rate. Since tile is considered 100% recyclable and it weighs 2x broadloom, a square yard of tile contributes 4 times more RO than broadloom, assuming a 50% RO yield for broadloom.

In Advisory Committee recommendation February 2018 4-1, it was recommended that CARE consider increasing the collector/sorter incentives for collection sold and shipped. CARE agrees to consider increasing collector/sorter incentives if/when PCC supply becomes an issue. As has been stated by the collector/sorters many times, “we can collect all you need.” The challenge is the creation of more capacity to produce additional products and markets to buy those products. As demand for material goes up, competition and the need for collection will expand. However, it is essential to focus resources on outlets to pull material through the supply chain at this time. The addition of an added collection incentive will not contribute to increasing the recycling rate in California. Thus, given the unnecessary additional cost, it is not feasible nor prudent (impractical) to implement such a subsidy increase at this time.
### Subsidy Table

<table>
<thead>
<tr>
<th>Subsidy</th>
<th>Eligible</th>
<th>Payout</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reporting incentive</td>
<td>Collector/sorters</td>
<td>$1,000/period</td>
<td>Incentive paid per period; not subject to guarantee timeline</td>
</tr>
<tr>
<td><strong>Broadloom collection</strong></td>
<td>Collector/sorters(^7)</td>
<td>2 cents/pound</td>
<td>Paid on pounds of PCC broadloom collected, sorted, shipped, and sold for recycling; previous quarterly and annual limits on payouts are discontinued as of January 1, 2018</td>
</tr>
<tr>
<td>(broadloom whole carpet shipped and sold for recycling)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tile collection</strong></td>
<td>Collector/sorters(^8)</td>
<td>5 cents/pound</td>
<td>Paid on pounds of PCC tile collected, sorted, shipped, and sold or donated for reuse or recycling; initiated as a 6-month pilot program effective January 1, 2018</td>
</tr>
<tr>
<td>(carpet tile shipped and sold for reuse or recycling)</td>
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</tbody>
</table>

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7 Processors who also act as collector/sorters are eligible for collector/sorter broadloom whole carpet shipped and sold for recycling subsidy.

8 Processors who also act as collector/sorters are eligible for carpet tile collection subsidy for carpet tile shipped and sold/donated for reuse or recycling.
Reuse subsidies are designed to develop a market for reusable carpet and carpet tile. Presently both collector/sorters and processors are eligible to receive reuse subsidies. However, neither collector/sorters nor processors are eligible to receive both reuse subsidies and broadloom collection subsidies on the same pounds. For instance, if a pound of broadloom carpet is collected, sorted, and sold/donated for reuse, it is eligible to receive the 10-cent reuse subsidy, but not the 2-cent collection subsidy. Subsidies for carpet tile are eligible for both tile collection subsidies and tile reuse subsidies on the same pounds.

<table>
<thead>
<tr>
<th>Subsidy</th>
<th>Eligible</th>
<th>Payout</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tile reuse</td>
<td>Collector/sorters</td>
<td>10 cents/pound (pounds not</td>
<td>For materials shipped and sold or donated for reuse</td>
</tr>
<tr>
<td></td>
<td>Processors</td>
<td>eligible for 2-cent collection</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>subsidy)</td>
<td></td>
</tr>
<tr>
<td>Broadloom reuse</td>
<td>Collector/sorters</td>
<td>10 cents/pound (pounds not</td>
<td>For materials shipped and sold or donated for reuse</td>
</tr>
<tr>
<td></td>
<td>Processors</td>
<td>eligible for 2-cent collection</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>subsidy)</td>
<td></td>
</tr>
</tbody>
</table>
Processing

Subsidies for recycled output are paid out with a priority toward those materials with an ash content of less than 25%. The Program will from time to time conduct an analysis of field samples to determine compliance and whether the current ash content threshold should be adjusted from less than 25% for Type 1 and greater than 25% for Type 2.

From time to time, CARE will conduct moisture level tests to ensure excess weight due to water is not a factor. Under the current policy, equilibrium moisture levels at or below 5% are considered routine, and no correction will be applied. For moisture levels above 5%, the actual moisture level minus the base equilibrium level (5%) will be used to reduce the number of recycled output pounds proportionally before any incentive or subsidy payouts are calculated. Moisture levels are accounted for in the CARE Ash and Moisture Protocol (embedded as an exhibit within the Processor agreement). Participating processors must submit at least one ash test following this protocol for every million pounds processed during each reporting period. CARE retains the ability to adjust this and other protocols as needed over the course of the Plan. CARE may exempt some processing procedures from this requirement; currently depolymerization and carpet tile processing techniques are exempt.
<table>
<thead>
<tr>
<th>Subsidy</th>
<th>Eligible</th>
<th>Payout</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tile recycling</td>
<td>Processors</td>
<td>10 cents/pound</td>
<td>For carpet tile only</td>
</tr>
<tr>
<td><strong>Type 1 recycled output</strong></td>
<td>Processors</td>
<td>10 cents/pound</td>
<td>For RO with less than 25% ash content</td>
</tr>
<tr>
<td>(ash content less than 25%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Type 1 Voluntary Highest Recyclability Incentive</strong></td>
<td>Processors</td>
<td>5 cents/pound</td>
<td>For N6, N66 fiber from broadloom or tile effective January 1, 2019</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Commercial broadloom Type 1 recycled output</strong> (pilot)</td>
<td>Processors</td>
<td>Additional 2 cents/pound (paid in addition to Type 1 RO, 10 cents/pound payout; RO derived from commercial sources must meet Type 1 ash content threshold of &lt;25%)</td>
<td>To be launched as a 6-month pilot beginning July 1, 2018 (Q3); subject to additional documentation providing that feedstock is purchased from an independent collector or a signed contract for a project is on file. This Pilot is suspended (see page 136).</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td><strong>Type 2 recycled output</strong></td>
<td>Processors</td>
<td>3 cents/pound</td>
<td>For RO in excess of 25% ash content</td>
</tr>
<tr>
<td>(ash content above 25%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PC4</strong> (post-consumer carpet calcium carbonate)</td>
<td>Processors</td>
<td>17 cents/pound</td>
<td>Application areas that qualify under review; subject to specifications and testing protocols to be developed</td>
</tr>
</tbody>
</table>
### Recycled Content Manufacturing

The Program provides subsidies to manufacturers utilizing Type 1 non-nylon (PET/PP) and nylon 6 and nylon 66 recycled output in the production of pellets or consumer products (referred to as Tier 2 products). Manufacturer subsidies, currently focused on non-nylon and nylon 6 or nylon 66 recycled output, seek to advance development of a wider variety of products using carpet recycled output. The manufacturers (Tier 2) nylon 6 subsidy was initiated as a six-month pilot beginning October 2017. Nylon 66 will be added upon approval and implementation of this Plan. Similar subsidies for or other output materials may be considered over the course of the five-year Plan term. Consistent with Advisory Committee recommendation February 2018 2b-3, the non-nylon components have been separated for PET/PTT and PP.

<table>
<thead>
<tr>
<th>Subsidy</th>
<th>Eligible</th>
<th>Payout</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer non-nylon recycled products: PET/PTT</td>
<td>Manufacturers</td>
<td>25 cents/pound</td>
<td>Must contain Type 1 RO; only actual weight of Type 1 RO is eligible</td>
</tr>
<tr>
<td>Manufacturer non-nylon recycled products: PP</td>
<td>Manufacturers</td>
<td>25 cents/pound</td>
<td>Must contain Type 1 RO; only actual weight of Type 1 RO is eligible</td>
</tr>
<tr>
<td>Manufacturer nylon 6 and nylon 66 recycled products: N6, N66</td>
<td>Manufacturers</td>
<td>10 cents/pound</td>
<td>Initiated as a 6-month pilot, effective October 1, 2018; only actual weight of Type 1 RO is eligible. N66 to be added upon implementation of Plan, estimated January 1, 2019.</td>
</tr>
</tbody>
</table>
**Grants**

CARE’s Program includes a multifaceted grant program which had primarily been designed to increase collection, processing, and manufacturing capacity as well as throughput of post-consumer recycled carpet in California. The grant program was modeled after CalRecycle’s grants program. With the passage of AB 1158 the Program is now required to incentivize highest recyclability through its grants program. As addressed in the *Highest Recyclability* section on page 113 and depicted in Table 6, highest recyclability is defined as shown.

Historically CARE has presented a grant funding approach targeted in three primary areas: Capital Improvements for expansion of processing and manufacturing capacity; Product Testing, Research and Development of new PCC-content products; and Micro-Grants focused on improving existing as well as establishing new collection and reuse programs. To meet the requirements of the Carpet Stewardship Law under this Plan, CARE will prioritize and incentivize highest recyclability through its grant solicitations and selection process by:

1. Outlining in Capital Improvements and Product Testing solicitations the preferential criteria available which encourage project submissions that specifically target highest recyclability. Below is a comparison of the prior grant scoring criteria areas and the proposed scoring approach.
<table>
<thead>
<tr>
<th>Prior Scoring</th>
<th>Scoring Descriptors</th>
<th>Proposed Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
<td><strong>Quality of Proposal</strong> – clear project description; well-planned project approach; identification of key milestones; probability of success; project adequately describes and justifies throughput strategy and use of funds requested to maximize reuse, recycling and/or recycled product manufacturing of California-generated PCC</td>
<td>5%</td>
</tr>
<tr>
<td>15%</td>
<td><strong>Applicant/Project Team Qualifications &amp; Experience</strong> – description of company history; fiscal soundness of company; track record implementing projects of similar size and complexity; key members of the project implementation team demonstrate background, experience, capacity and staff resources necessary to successfully implement</td>
<td>15%</td>
</tr>
<tr>
<td>15%</td>
<td><strong>Need</strong> – clearly describes why the project is needed (does it fill a California infrastructure gap?) and how it will benefit the California Carpet Stewardship Program; demonstrates an industry need; addresses barriers and obstacles to recycling, reuse and remanufacturing California postconsumer carpet including increasing the percentage of recycled or reused carpet output (yield), especially for materials or criteria in line with highest recyclability; identifies significant market potential for increasing reuse, recycling or remanufacturing (Tier 2 product manufacturing) of post-consumer carpet; provides sufficient evidence and reliable data to support the need; proposals for the manufacture of recycled products leverage a proven product, completed product testing, or other data to support probability of success</td>
<td>10%</td>
</tr>
<tr>
<td>Prior Scoring</td>
<td>Scoring Descriptors</td>
<td>Proposed Scoring</td>
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<tr>
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</tr>
<tr>
<td><strong>20%</strong></td>
<td><strong>Proposed Effectiveness and Project Impact</strong> – clearly identifies goals and objectives to achieve goals and measurable outcomes; goal(s) are relevant and support stated need(s); clear description of data to be collected and how effectiveness will be evaluated; project is innovative; project supports new, existing, improved and/or enhanced reuse, recycling and/or remanufacturing (Tier 2 manufacturing) of California post-consumer carpet; project identifies and quantifies target post-consumer carpet material types and components; project manages materials with highest recyclability and/or difficult to recycle portions of the carpet recycling waste stream; project identifies the additional impact by material component (e.g. nylon 6, nylon 66, PET, PTT, PP, carpet tile (by polymer and backing), residential vs. commercial, PC4 backing material, natural fibers, or other material components); size of impact is significant; project permits/licenses have been secured; claims are well supported</td>
<td><strong>15%</strong></td>
</tr>
<tr>
<td><strong>5%</strong></td>
<td><strong>Sustainable Operations</strong>: Proposal identifies the necessary resources for ongoing operations; applicant demonstrates commitment to long-term presence in the industry; project improves market stability; applicant is willing to provide a personal guarantee if requested <strong>Conservation</strong>: Project incorporates additional resource conservation (energy, water, material), source reduction, reuse, environmentally preferable purchasing policy (EPPP), or take-back strategies; reduces particulate emissions from processing technologies; prioritizes use of all carpet components (higher yield)</td>
<td><strong>5%</strong></td>
</tr>
<tr>
<td>Prior Scoring</td>
<td>Scoring Descriptors</td>
<td>Proposed Scoring</td>
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<td>---------------</td>
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</tr>
<tr>
<td>n/a</td>
<td><strong>Highest Recyclability</strong> – project results in increased collection, processing and/or secondary product manufacturing of materials ranking highest based upon the current definition and scoring template for highest recyclability (see Table 6) are eligible for a maximum 10 points; Additional up to 5 points are available for secondary products manufactured or recycled output processed to maximize the opportunity for material(s) to be utilized into closed-loop carpet-to-carpet applications (up to 5 points), followed by closed-loop non-carpet applications (up to 3 points), while down-cycled long-term inert applications (up to 1 point). Projects must identify material(s) targeted and quantify additional pounds resulting from grant funding. (preference will be given to projects that incorporate materials scoring highest on current highest recyclability ranking table).</td>
<td>15%</td>
</tr>
<tr>
<td>5%</td>
<td><strong>Work Plan</strong> – reasonable, logical and ambitious outline of key activities, milestones and due dates during the grant term; project speed to market is high; project is well planned; identification of necessary permits and ability to obtain within reasonable timeline (preference given to projects that have already secured necessary permits)</td>
<td>5%</td>
</tr>
<tr>
<td>10%</td>
<td><strong>Budget and Cost Effectiveness</strong> – project costs are reasonable, justified, cost effective use of funds; line items are clearly defined and justified; budget clearly identifies matching contributions and/or the value of in-kind services; project identifies Pounds Collected per $ of requested grant funds, Pounds Recycled per $ of requested grant funds, and MTCO2e greenhouse gas emissions reductions per $ of requested grant funds; project maximizes funding directed to materials aligned with highest recyclability ranking.</td>
<td>10%</td>
</tr>
</tbody>
</table>
### Prior Scoring

<table>
<thead>
<tr>
<th>Scoring Descriptors</th>
<th>Proposed Scoring</th>
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<tbody>
<tr>
<td><strong>20%</strong> CA Job Creation, CA Business – Entire project is located in CA; project identifies the number of new California (green) jobs that will be created and existing California jobs that will be sustained; applicant has specialized business certifications such as: Small Business Enterprise, Disabled Veteran Business Enterprise, Woman-Owned Business Enterprise, Certified Green Business; project supports disadvantaged and/or rural communities</td>
<td><strong>20%</strong></td>
</tr>
</tbody>
</table>

| **100%** TOTAL | **100%** |

2. The first round of Capital & Testing grants released under the 2019-2022 Plan (Cycle 3) will be evaluated under the initial highest recyclability definition and evaluation table as noted in the Highest Recyclability section (page 113) and Table 6 (page 116) with the above noted scoring.

3. Annually, as highest recyclability is re-evaluated, the grant scoring criteria for those material types meeting the highest recyclability parameters will be recalibrated to ensure those material types scoring highest are incentivized.

4. As grant announcement guidelines and solicitations are released, each will ensure that the most current materials ranking on highest recyclability are published.

5. Criteria may be adjusted for each cycle or for individual grant elements over the course of the Plan; any proposed changes will be released as a draft solicitation subject to stakeholder comment prior to being finalized. All grant elements will include criteria which give a preference for highest recyclability as well as California capacity (business and job creation), although precise amounts may vary over the course of the Plan or between elements as described elsewhere in this Plan.
**Grants**: The current cycle of grant applications for Cycle 2A, 2B, and 2M will be administered as outlined in the solicitations released in 2017 and early 2018. Based upon the currently defined highest recyclability parameters within this Plan, analysis shows that this grant cycle is compliant with all Stewardship Laws. In managing to multiple objectives and goals, there is also focus on supporting the expansion of carpet collection and processing in support of the 24% goal by the 2020 deadline. CARE strategically chose to release the Cycle 2 grant solicitation to further facilitate the 24% goal. Highest recyclability, as currently defined in this Plan, was mapped against PCC materials to be collected and/or processed in each of the grant applications received. That analysis is shown here.

**Figure 6. Output Impact of Pounds Funded – 2A Capital**

![Pie chart showing output impact of pounds funded for 2A Capital]

Hatched area = Highest Recyclability
~67%

- 13% Tile
- 40% Nylon
- 16% PC4
- 17% PET
- 14% All

Following are the emphasis areas given in grant funding evaluation:

- Increasing processing and manufacturing capacity in CA
- Developing and manufacturing more CA-Sourced PCC-content products
- Increasing recycled output
- Highest Recyclability
Additional consideration points:

- Currently most abundant PCC components discarded: PET, PC4
- At the outset of Cycle 1, the market for PC4 was nonexistent

While durability of products was not mentioned under “conservation,” it was considered by reviewers.

Figure 7. Original Grant Dollars – Cycle 2B Funded

A number of grant applications received for Cycles 2A and 2B are focused on PET and PC4 and are considered strategic to accomplishing the 24% goal. It should be noted that beyond testing grants, applicants proposing long-term projects have been and are given higher priority and consideration over large volume one-time use applications. Awards in Cycles 1 and 2 have been made to all Nylon specific and carpet tile projects that applied for funding, if they were operational. Cycle 2 grants will expand in both the focus and funding for highest recyclability in 2019 and 2020.

Cycle M grants focus on collection, reuse and handling of all carpet materials at the initial point of disposal and are also of a much smaller magnitude ($15,000 maximum). Thus, CARE does not anticipate major changes being made in Cycle M grant element relative to highest recyclability as those materials are inherently included in the overall collection process and cannot...
be segregated at the collection aggregation point. By investing in general infrastructure which benefits all polymers and carpet types under the Cycle M element, the Program helps prevent preferential collection and improves the quality and quantity of PCC materials collected for recycling. Subsequent Cycle A & B grants (beginning with Cycle 3 in 2019) will increase the funds allocated to highest recyclability materials. In addition to adding more dollars to the 2019 ($5.1M) and 2020 ($3.1M) grant pool, a minimum of 60% of funds will support this designation, while the exact percentage will be determined once implementation of the next grant cycle is underway and consistent with hitting the 24% goal by January 1, 2020. CARE proposes the following timeline for evolution of the grants program under this Plan:

- Q4 2018 – Release Cycle 2 grant funding based on proposals and evaluation completed in 2017/2018 for Cycles 2A, 2B and 2M, upon Plan approval. As shown above, over 60% of Cycle 2A grants conform to the current definition of highest recyclability.
- 2019 – Develop adjusted grants structure to further emphasize and incentivize highest recyclability to be approved via the decision-making process identified in this Plan. The updated structure will be incorporated beginning with Cycle 3 grant solicitations. Initial solicitation criteria are presented above. A minimum of 60% of grant funds will be designated for highest recyclability projects.
- 2020 – Additional refinements to this structure may be adopted in subsequent grant solicitations for individual grant cycles and elements throughout the Plan term. Stakeholders including the Advisory Committee and CalRecycle will have the opportunity to review proposed changes to each solicitation through the release of Draft Solicitations, public comment, webinars, Q&A and other protocols described in this Plan.
- This process also allows CARE to be responsive to dynamic conditions over the course of the 5-year Program and allows stakeholders to have input on each solicitation in the draft form, prior to releasing Notice of Funds Available.
- The new grant structure will use one or more of these potential strategies to incentivize projects meeting highest recyclability thresholds:
  - Specific set-aside dollar amount as a portion of the grant budget
  - Target percentage of the grant budget (currently set at 60%)
  - Criteria preference points for highest recyclability projects
Apply above per Cycle, per grant Element or per Total annual grant funding – For the purpose of this Plan, CARE will allocate a minimum of 60% of total Cycle 3 grants funds to highest recyclability projects; this amount may be adjusted for future cycles or elements as outlined above.

Dedicate specific grant cycles or elements to highest recyclability or increasing recyclability – CARE may launch Cycle D for Design grants beginning in 2019/2020 as a primary grant strategy for incentivizing highest recyclability. Each funding level is to be determined.

(Cycle M) micro-grants will remain neutral from a recyclability perspective as the focus is designed to support collection, infrastructure and reuse of all PCC materials.

Grant funding levels were set through an optimization exercise looking at all costs associated with the Program, forecast sales, assessment levels required to fund the program, as well as projected recycled output rates and highest recyclability as a primary consideration. Based on several years of experience with grants in this sector and guided by responses to two rounds of RFP solicitations, CARE elected to increase grant funding in 2019 and 2020. Through an iterative process the following grants schedule was obtained which included a decision to further stimulate capacity and product/market development via front-loading the grants funding in the early years of the Plan, as follows: 2019, $5.1M; 2020, $3.1M; 2021, $1.1M; and 2022, $1.1M. The Program proactively launched Cycle 2 grant solicitations in Q4 2017, in anticipation of Plan approval and making awards in 2018 in an effort to maximize impact throughout the Plan term.

Additional cycles of grants will be released in 2019 and annually thereafter in line with the annual grant strategy. Based upon stakeholder input, material throughput needs, related market needs, and other performance goals of this Plan, the Program may choose to allocate grant funds among any of the six grant focus elements on annual, multi-year and/or continuous application basis. At the launch of this new Plan, all but one of these grant elements is targeted for funding allocation for Cycle 2 solicitations and awards. The final element (design grants) may be initiated beginning in 2019 or 2020.

Additional funds may also be allocated to grants beyond these proposed funding levels based on available funds; For example, should subsidy payouts be less than anticipated in a given period. CARE will review this funding level annually and consider adjustments consistent with CARE’s response to Advisory Committee recommendation February 2018 8-1.
For instance, if annual recycled output pounds are lower than expected in a given year resulting in lower subsidy fund payouts, CARE may elect to reallocate surplus funding toward other Program needs such as, but not limited to, grants or technical assistance. In this way, the program can use grant funding to specifically stimulate particular areas of need in a manner which also aligns with concurrent strategy approaches included in this Plan.

The Program may adjust available grant funds up or down annually, depending on recycling levels, subsidy payouts, and other Program priorities. However, annual grant funds available will not be reduced below those identified above. Historically, the Program has committed at least 50-75% of grant funds to California-based projects and expects to increase the preference for California-based activities in the future. Cycle 1 grants awarded over 85% of funding to California facilities. While it is anticipated that grant funding will eventually be focused entirely on California businesses, maintaining and supporting a diverse and robust processor/manufacturer base is important to the overall health of the Program.

CARE identifies eligibility requirements for each cycle of grant funds in solicitations released to the public in draft form for comments prior to finalization. California-based entities will continue to be prioritized within grant application scoring criteria and through funding percentage targets, as will projects in line with new highest recyclability rankings. CARE has already increased the target funding for California-based projects for Cycle 2A/2B solicitations to 75%. In an effort to further incentivize California-based collection, reuse, processing and manufacturing – as well as highest recyclability - additional points have been provided to the scoring process. Both capital improvements and testing grant categories are currently open to both California and non-California entities, at least in the near term, in order to ensure that post-consumer carpet recycling can grow rapidly to meet statutory requirements and timelines. To date, Microgrants and Procurement grants have been limited to California-based entities and projects. Design and innovation grants may be offered in beginning in 2019 or 2020 with the intent to drive recyclability and closed-loop product development. These grants would be open to mills, universities, and other entities both in and outside of California. CARE retains the ability to adjust eligibility to meet the needs of each cycle and overall Program performance goals, understanding that meeting these requirements in the near term may take investment on a national level.

The Program will continue to utilize the overall grant program format, processes and protocols as established in Cycle 1A/1B/1C/1M, although the Program may adjust grant funding solicitation requirements, target areas,
preference or priority criteria, application documents, or other requirements based on program needs. Draft solicitations will continue to be released in advance, along with opportunities for stakeholder input such as Advisory Committee review, public webinars, question/comment periods, etc. to provide input into this process.

<table>
<thead>
<tr>
<th>Grants Update as of 12/31/2017</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total dollars paid</td>
<td>$1.982M</td>
</tr>
<tr>
<td>Total paid in California</td>
<td>$1.732M</td>
</tr>
<tr>
<td>Percent of grant dollars awarded in California</td>
<td>87%</td>
</tr>
<tr>
<td>New recycled or manufactured output (lbs.) 2017</td>
<td>8.5M lbs.</td>
</tr>
<tr>
<td>New gross collection (lbs.) 2017</td>
<td>2.4M lbs.</td>
</tr>
<tr>
<td>Cost per pound (recycled/manufactured)</td>
<td>$0.18</td>
</tr>
<tr>
<td>Cost per pound (collection – micro grants)</td>
<td>$0.02</td>
</tr>
<tr>
<td>New California jobs (# FTEs) 2017</td>
<td>18 FTEs</td>
</tr>
</tbody>
</table>

From the above noted Grants Update chart, 18 jobs in California have been realized in 2017 and it has been proposed by recipients that these grant-supported efforts will process in 2017 approximately 9 million pounds of recycled output into new feedstock commodities or PCC-recycled-content products such as: pellets, carpet, carpet backing, fiber cushion, insulation, rubber mats, transition ramps, wheel stops, water runoff management products, pavers, automotive products, etc. Despite unanticipated challenges with equipment delays, permitting or slow start market demand delays, CARE expects that the majority of additional jobs and RO resulting from Cycle 1 grants to be fully implemented and realized by the end of 2018.

Based on Cycle 1, the Program has demonstrated that even modest investments in grants can have a significant impact in new capacity, additional PCC-content products, higher throughput, additional collection of PCC, accelerated timeline to market, and even project location selections. In 2016, CARE awarded approximately $2M in capital investment funds, which resulted in:

- 2 new California processors, for a 100% increase (CLEAR, XT Green anticipated).
- Expansion of one existing manufacturer (American Fiber Cushion).
• 2 new California Tier 2 manufacturers, for a 100% increase (Sierra Rubber, Safe Path Products).

• 7 new recycled-carpet-content products, for a 32% increase (transitions, ramps, garden edging, wheel stops, landscape pavers, commercial mats, and hybrid pad).

• 6 grant case studies and 3 videos summarizing results.

These indicators demonstrate that grant funds are an effective strategy for increasing collection/reuse, recycled output and recycled product development especially in combination with subsidies, technical assistance and other program support. The Program will continue to consider impact in these areas as one of the criterion included in grant evaluation, calculating the cost effectiveness of proposed projects in cost/pound or pounds/grant dollar as one indicator of a project’s potential impact. At the same time CARE looks to ensure cannibalization is not occurring (in other words, growing new pounds or markets and not shifting pounds from one company to another).

CARE is working to develop analytics that can assess the real impact of grants. A recent initial analysis indicates an estimated 10-30% of new targeted recycled output will result from the $1-3M grant funds allocated annually throughout the term, or approximately 2-4 pounds per grant dollar.

Additional factors are also considered as outlined in specific grant solicitations. CARE requires grantees to provide regular reports on grant progress and will summarize and quantify results in the Program annual report throughout the term. To date, 6 grantees have also collaborated with CARE to create case studies and videos highlighting results made possible through grant funding. These results are posted at: https://carpetrecovery.org/ca-grants/.

Under this Plan, the Grant Manager, Program Director and Executive Director shall review the grants program annually. Recommended focus areas and budget allocations will be presented to the SPC for approval. Grantees must report regularly (generally quarterly and final reports) according to terms and conditions of each grant cycle agreement. The framework of these agreements developed in 2015 in coordination with CalRecycle, based on prior successful CalRecycle grant programs, will continue under this Plan. Particular focus, criteria points, or other requirements of each solicitation may be modified over the Plan term based on the needs of the program, Advisory Committee or stakeholder feedback,
or other factors within the six main grant focus areas identified within this Plan. Specifically, to comply with Carpet Stewardship Laws, criteria points designated for incentivizing highest recyclability will remain constant unless guidance from the Highest Recyclability Committee recommends a reduction or increase in point value for consideration. New grant areas may be considered for adoption over the term, subject to consultation with Advisory Committee, SPC and public comment on draft solicitation release.

In Advisory Committee recommendation February 2018 8-1, CARE was requested to increase the total grant funding amount and in-turn increase the level for individual grants in support of in-state processing and manufacturing. CARE has increased grant funding for 2019 and 2020 specifically in this Plan. CARE has evaluated the revised status of grant allocations and will re-evaluate grant amounts on an annual basis via CARE’s annual reports to CalRecycle in light of Program performance.

CARE has developed a solid and fully funded Plan based on capacity expansion underway or planned by very near future program participants, including those in the State. Due to loss of grant Cycle 2 in 2018, part of the strategy is to front load grants in 2019 and 2020 to drive capacity, product, and market expansion. This Plan is funded to hit and exceed 24% by January 1, 2020 as required by statute. Due to delays in authorization for releasing Cycle 2 funding, which would have allocated $3M in 2018 and $2M in 2019, CARE proposes to shift the full $5M previously allocated for 2018 and 2019 funding to 2019, with the first $3M being released as Cycle 2 as described above, and Cycle 3 being released by mid-2019. This adjustment results in a net increase of $2M over the 5-year term. In addition, CARE proposes to add $0.5-$1M per year beginning in 2020 to total available grant funding to accommodate additional requirements to incentivize highest recyclability, increasing the total grant funding over the five-year term by 53% from $8.5M as previously identified, to $13.4M.

Based on Cycle 1 results, it is estimated that approximately 2-4 pounds of recycled output may be generated by every $1 of grant funding, although increased investments in recyclability may delay impact of these results by several years as infrastructure is established or new designs are brought to production. Grant funding allocated over the term is thus anticipated to result in approximately 39M pounds of recycled output or manufactured pounds, or an estimated 5-10% of recycled output projections.

There were numerous financial models run to try and balance the expansion of the recycling rate, in-State capacity growth, declining carpet sales in CA,
and the increasing assessment. As a result, if recyclers meet the projections they have represented to CARE, in part thanks to existing grants, and as we’ve verified in multiple contacts, this Plan will meet or exceed targets. Future grants will facilitate additional growth and within the State. The following table is a generic allocation table based on input from recyclers regarding the pounds of RO growth expected over the life of this Plan. All inputs have been discounted by 50% or more based on a history of over estimating growth in pounds and/or timing of when those pounds will come on line. The recycling rates noted below are for end of the year noted in the yearly columns.

Table 12. Recycled Output Growth Projections (millions of pounds)

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Base Pounds (prior year)</td>
<td>37.654</td>
<td>44.726</td>
<td>56.726</td>
<td>80.726</td>
<td>84.726</td>
<td>84.726</td>
</tr>
<tr>
<td>All Processors contributing to Type 1 Recycled Output</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017 actual</td>
<td>37.654</td>
<td>44.726</td>
<td>56.726</td>
<td>80.726</td>
<td>84.726</td>
<td>84.726</td>
</tr>
<tr>
<td>2018B</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2019F</td>
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<tr>
<td>2020F</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
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<td>0</td>
</tr>
<tr>
<td>2021F</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2022F</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total Pounds (million)</td>
<td>47.200</td>
<td>56.7</td>
<td>80.7</td>
<td>84.7</td>
<td>84.7</td>
<td>85.7</td>
</tr>
<tr>
<td>Recycling Rate</td>
<td>13.7%</td>
<td>16.7%</td>
<td>24.3%</td>
<td>25.8%</td>
<td>26.1%</td>
<td>26.7%</td>
</tr>
</tbody>
</table>

Growth Estimates and Capacity v13 7-08-18 (table filename for future reference).
Table Note: The ending 2017 total pounds does not match the beginning 2018 pounds since a correction was made to remove 2.47M pounds of base output lost due to a processor close at end of 2017.

CARE is aware that both grants and subsidies may influence business decision-making to invest in new capacity, product development, design or other areas, such that it is difficult to ascertain to what degree these actions may be the result of grant funding versus subsidies or a combination of both. However, it is generally accepted understanding that grants often serve to provide “activation energy” to bring companies, partners and new concepts
to fruition, accelerate adoption of innovations, encourage business to locate or expand in California, reduce timetables for project initiation, and help to secure investments from additional collaborators. For this reason, the bulk of Program funding continues to be invested in subsidies, while grant funding is front-loaded in early years to stimulate investments in early years of the Program in line with Program goals. The Program provides detailed information about grants on its website (https://carpetrecovery.org/ca-grants/), including grant solicitations released to date, questions and answers about grants, templates, and other supporting materials.

Grant funding areas may include the following focus elements consistent with 2017 Council recommendations, as well as new statutory requirements for installer training.

- Capital grants
- Research, development, and testing grants\(^9\)
- Recycled product procurement grants
- Micro-grants for reuse and collection
- Installer training grants/incentive\(^10\)
- Design grants\(^11\)

Potential grants are listed in the following sections.

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\(^9\) Combines two Council-recommended grant elements (R&D and product development & testing) into a single general category, which may be used to fund grants of either type or both, consistent with terms of each cycle’s grant solicitation.

\(^10\) New requirement of statute with passage of AB 1158 for grants or incentives for apprentice and journey-level installers.

\(^11\) Not currently activated under this Plan but may be activated over the term. Design challenge awards or competitions may be offered under micro-grant element.
Capital Grants
The Program launched its first capital grants in 2015. These grants are anticipated to be offered on an annual basis throughout the term of the Plan, subject to available funding and will continue to be modeled after the Cycle 1A grant solicitation issued in 2015, subject to refinement over time. CARE may release capital grants as 2-year implementation terms beginning in Cycle 2. It is anticipated that capital grants will be a primary grant investment area under this Plan for infrastructure, capital equipment, and investment.

- Preference for highest recyclability materials and products.
- Preference for California-based businesses and projects.
- To support collection, processing, recycling, and recycled-content manufacturing.
- To increase capacity and throughput.

Research, Development, and Testing Grants
The Program launched its university research grants in 2014, and it initiated Product R&D and Testing grants in 2015. This grant category combines product, processing, and manufacturing into a broad R&D and testing category. Grants in this category are anticipated to be offered on an annual or continuous basis, subject to available funding and are expected to be modeled after the Cycle 1B grant solicitation issued in 2015, subject to refinement over time. This grant area is anticipated to serve as a primary investment area under this Plan. At this time, CARE does not foresee reissuing specific university grants, although eligible parties under this grant area may include universities. Specific focus areas for each grant cycle within this category may be adjusted over the term to optimize impacts and may include areas such as:

- R&D grants to processors and manufacturers to improve recycled output quality and yield.
- R&D grants to processors and manufacturers to increase the number and diversity of recycled-content products.
- Preference for highest recyclability materials and products.
- Fundamental R&D through innovation grants, research studies, testing grants, innovation awards, and design competitions leading to increased recyclability and recycled content use.
• Assistance to Carpet Mills to improve recyclability.
• Innovation grants for new product research, development, testing, and promotion to address focus areas, which may be modified from year to year.

To further expand potential California outlets for PCC materials, product development initiatives are being evaluated in multiple areas. Uncommitted or reallocated budget funds may be the source of funding for these or other projects going forward.

• Preference for highest recyclability materials and products.
• Civil engineering applications of PET (building on tire success).
• California Healthy Soils Initiative: a study using PC4 in selected applications.
• Expanding the DoubleGreen™ marketing concept to drive awareness.
• Development of recycled-carpet-content products that can be readily upcycled into closed-loop systems.

Recycled Product Procurement Grants

The Program launched grants to support procurement of products made from California-sourced recycled carpet in 2016. These grants may be offered on an annual or continuous basis in future years based on available funding. Grants in this category are anticipated to continue to be modeled after the Cycle 1C grant solicitation issued in 2016, subject to refinement over time given the disappointing response to Cycle 1C.

• Increase purchase of and confidence in a wide range of products made from recycled carpet.
• For California, public agency procurement of recycled-content products made from recycled carpet.

Micro-Grants for Reuse and Collection

In April 2017, the Program launched Cycle 1M offering $50,000 in micro-grants for collection and reuse. These grants are expected to be offered on an annual or continuous basis, subject to available funding. Grants in this category are anticipated to continue to be modeled after the Cycle 1M grant solicitation, subject to refinement over time. Annual allocation for these
grants is expected to increase 50% in 2019 and may increase further as reuse and collection markets are strengthened and pending analysis of grant success. The Program will also consider incorporating design competitions or awards for universities to drive design innovation, to be launched as early as 2020.

- Supports low- to medium-cost equipment and promotion to establish or improve reuse and collection.
- For reuse centers, collector/sorters, retailers, haulers, disposal sites, agencies, processors, and schools/universities.
- Academic challenge grants for innovation in the design space, or similar design competition for universities or other innovators.

**Apprentice/Journey-Level Installer Grants and Incentives**

Per statute, CARE has specifically budgeted $100,000 per year toward incentives or grants to support state-approved apprenticeship programs for training apprentice and journey-level carpet installers in proper carpet recycling practices. These activities are described starting on page 206 in Chapter H. Education and Outreach (E&O).

**Innovation and Design Grants**

The Program has not previously offered Innovation and Design (I&D) grants. In 2020, CARE plans to develop a pilot grant cycle for I&D Grants. “Innovation” grants, intended for colleges and universities, may be within the $10,000–$100,000 range and would be intended to encourage ideas around recyclability and design of sustainable products made from PCC. Design grants could be made available in the future as needed to meet Program goals; examples of such areas of funding might include:

- Support design R&D leading to recyclability and recycled content use and to accelerate industry adoption of new innovations.
- Accelerate design R&D leading to increased carpet-to-carpet utilization, upcycling of recycled carpet content into carpet/non-carpet closed-loop products, or similar innovations.
- Innovation awards for significant advances in recyclability, upcycling, carpet-to-carpet utilization or into other closed-loop systems.
- For Carpet Mills, manufacturers of recycled-content products, and universities.
Other Financial Incentives

Subject to available funding, the Program may apply other financial incentives, including but not limited to the following options:

- Reuse market development to foster demand for used broadloom and tile carpet.
- Collection market development to strengthen markets for collection services.
- Recycled output market development, including potential focus on technology innovations, increased quantity (yield), quality improvements, and increased demand from recycled content manufacturers.
- Recycled product market development, such as new product development, increased demand for existing products, and product improvements.
- Recyclability market development, including design for recycling, upcycling, and closed-loop methods.
- Training for installers and participation at distributor locations.

Research & Development

The following R&D activities will be funded through this Plan.

- Convenient collection R&D. Beginning in 2017, CARE will commission independent research, analysis, and stakeholder engagement regarding collection convenience standards for the Program. The convenient collection study will research existing definitions of convenient collection for other stewardship programs, survey affected audiences including carpet installers and purchasers, gather stakeholder feedback regarding potential convenience standards, and analyze potential convenience standards and costs of adding new sites. This project will help the Program propose an appropriate standard that defines convenient collection for post-consumer carpet recovery and evaluate whether the standard is currently met in California. If not currently met, the project will also help the Program develop a reasonable timeline and approach for meeting the standard.
• Reuse opportunities R&D. As part of the reuse initiative, evaluations for expanding reuse will be supported through CARE market and product development efforts.

Other non-grant R&D activities to be considered during the Plan period as opportunities arise may include:

• Closed-loop recycling, upcycling, biomimicry, cradle-to-cradle, or green chemistry design
• Polymer/construction analysis R&D
• Label and certification R&D
• Rebate program R&D
• Additional R&D as identified during the term

ReMade Institute Support

The U.S. Department of Energy (DOE) ReMade Institute is one of 15 Manufacturing Institutes, set up through the National Network for Manufacturing Innovation (NNMI). A collection of 25 corporations, 28 academic institutions, 6 national labs, and others have been assembled to potentially participate in this program. CARE has submitted their letter of intent to support this program. DOE’s key thrusts in this institute include applied research in the areas of Manufacturing Material Optimization, Design for Reuse and Disassembly, End-of-Life (EOL) Reuse / Recycling and Recovery, and Remanufacturing across a variety of materials including fibers, polymers, metals, and electronic waste. Wrapping this matrix is a layer of Systems Analysis and Integration, which provides a foundation across the entire design of the institute. In addition to CARE’s membership, we will support the work via in-kind donations of time, materials, and expertise.

CARE is working with Georgia Tech on developing a proposal titled: Converting Carpet Waste into Intermediates for reuse and valuable end-use products. This commitment is a multi-year investment at the pre-commercialization stage for applied research to develop new technologies and product opportunities for post-consumer carpet materials. There are two California universities included in the ReMade program: University of California (UC) at Santa Barbara and UC Irvine. At the time of this Plan submission, the next Request for Proposals for projects is anticipated in the May 2018 timeframe.
Technical Assistance

The Program leverages staff and contractor resources to provide technical assistance in several program areas. Resources will be evaluated and prioritized annually by program staff to support performance goals and develop tactics for continued improvement. At the same time, CARE will work to be responsive to opportunities as they arise. Target audiences or eligible parties may differ for various tactics in line with Program needs. In general, technical assistance is concentrated in California, although some market development activities may support processors and manufacturers throughout the country to increase the utilization of California-generated PCC or support other performance goals such as manufacturer recyclability or source reduction. Potential technical assistance activities may include but are not limited to the following areas.

Reuse

- Help establish and/or promote reuse programs and opportunities.

Collection

- Increase public drop-off locations at disposal sites.
- Support retailers in obtaining collection service.

Market Development

- Improve recycled output quality and quantity; scale existing secondary markets; increase number and type of secondary products using recycled output; support testing/infrastructure.
- Increase number and type of secondary products using recycled output, increase upcycling, takeback and carpet-to-carpet closed-loop products; support testing/infrastructure.
- Support recyclability advances, accelerate adoption of new technologies (e.g., Niaga technology), support R&D for innovation, closed-loop, upcycling, biomimetic design, green chemistry, etc.
- Coordinate with CalRecycle and Department of General Services (DGS) to expand and promote recycled-carpet-content products under the State Agency Buy Recycled Campaign (SABRC), Recycling Market Development Zones (RMDZ), and other databases.
Education

- Collaborate with GoBiz, RMDZ, DGS, and CalRecycle to leverage resources, grants, and support for California facilities.
- Promote the adoption of environmentally preferable purchasing (EPP) policies for local governments and businesses and promote procurement of recycled-content and recyclable carpet products through a continuation of the collaborative product presentations with CalRecycle focusing on the introduction of DoubleGreen™ brand.
- Develop consumer-facing recycled products web portal.
- Further develop “Buy Recycled” campaign and online resources to promote available products.
- Leverage Carpet Mills’ sales representatives to educate retailers and, in turn, to inform customers.
- Education, outreach, and promotion related to Market Development (including EPP policies and PCC promotion) are covered in Chapter H. Education and Outreach (E&O)

Technical assistance is a dynamic process. Criteria for judgment to support technical assistance might include but is not limited to the following elements. In all cases, using expert experience and judgment, CARE will evaluate the impact and value of the effort via internal review and documentation of results, which will be reported in the annual report. CARE will work with and be responsive to the recycling community for such assistance, and work to adapt to the shifting demands of this dynamic program via stakeholder dialog, surveys, meetings, etc.

- Timing to market of results
- Volume impact – will it move the needle on recycling rate
- In-state versus out-of-state (California priority)
- Consistent with product guidelines (under development)
- Impact on human health and the environment
- Availability of resources to do the work
- Availability of funding to support the effort
- Prioritization relative to other opportunities
• Consistent with Advisory Committee and CalRecycle feedback
• Judgment of CARE team of value to achieving program objectives
Expanding SABRC—State Agency Buy Recycled Campaign

SABRC, the State Agency Buy Recycled Campaign, is a joint effort between CalRecycle and the Department of General Services (DGS) to implement California’s state law requiring state agencies and the Legislature to purchase post-consumer recycled-content products. SABRC includes purchasing and reporting requirements for 11 broad categories of recycled-content products. Post-consumer recycled-carpet-content products are not currently included in those categories.

According to a 2014 DGS study on State of California purchases, the State spent approximately $12.8 billion on services and $1.5 billion on goods in 2012. However, less than $200 million annually is known to be spent on post-consumer recycled-content (PCRC) products. The report suggested four specific improvements that can be made throughout the State purchasing system to increase the spending on PCRC.

While CalRecycle is diligent in trying to track and verify agency PCRC purchases, there is no existing enforcement mechanism that allows CalRecycle or DGS to incentivize or penalize individual agencies for performance against SABRC requirements. The result is while some agencies comply, about one-third do not.

CARE sees an opportunity to help grow State PCRC purchases to levels that meet the SABRC requirements by supporting legislation that gives CalRecycle and DGS the enforcement tools required to ensure the agencies both report accurately and comply with SABRC-mandated PCRC purchasing levels. Thus, CARE will be working with CalRecycle and other interested parties in crafting this legislation with a goal of securing passage in 2018. The proposed legislation will include the establishment of a new SABRC Reportable Product Category for post-consumer recycled-carpet-content products.

AB 1158 also requires DGS to revise relevant procurement rules (e.g., support minimum PCC content in new products) and to ensure that post-consumer carpet removed from state buildings is managed in a manner consistent with the purpose of the Carpet Stewardship Laws. CARE will support efforts undertaken by DGS to comply with these provisions of AB 1158. CARE plans to continue to work collaboratively with all interested parties to achieve this goal. In this process, CARE will be actively looking for input from CalRecycle, DGS, and the Advisory Committee, along with NGOs and other stakeholders. In addition, CARE will continue and expand efforts under this Plan to promote available post-consumer recycled-carpet-content products with state and local procurement officials and other key audiences to help build demand for these materials. Procurement grants will also continue to be offered to encourage public agencies to purchase post-consumer recycled-carpet-content products.
Data Collection and Industry Collaboration

The carpet industry is working to advance design for recyclability and use of recycled output, including development of carpet that is easier to recycle and supports use of more post-consumer carpet content into new products, including new carpet (carpet-to-carpet or closed-loop recycling). Much of this work is taking place at individual mills, and CARE will support and advance these efforts by requiring Plan participants to submit annual data on their investments and progress. CARE will provide a forum to advance industry dialog and progress on non-proprietary innovations and best practices for increasing carpet recyclability and incorporation of recycled output into new products.

Mills have been investing in research and development (R&D) to make product improvements that better balance durability and performance concerns with recycled content and recyclability concerns. The cost to develop new materials and products can require years and millions of dollars to perfect before being commercialized. Such R&D is usually protected by Intellectual Property (IP) rights that drive the innovation engine in every carpet company.

CARE will gather data and support industry innovation. To enable CalRecycle and CARE to track how mills are working on new and better construction for carpet, CARE will survey mills regarding the size and scope of this development work taking place in the industry. Mills participating under this Plan will agree to disclose investment information regarding these areas of R&D by participating in an annual survey. This information will be included in AUP audits.

CARE will survey each mill at the end of each year of the Plan to determine the size and scope of the work being done by each individual company. The survey will include the amount of funds devoted to R&D for such components as:

- New construction techniques to assist in deconstruction at end of life.
- Development of new methods to recycle/deconstruct current construction methods that exist today.
- New ways to incorporate the output of post-consumer carpet’s fiber into new carpet products
- New ways to incorporate the output of post-consumer carpet’s fiber into the engineered resin market.
F. MARKET DEVELOPMENT

- New ways to incorporate the output of post-consumer carpet’s backing/fillers into new carpet products.
- New ways to incorporate the output of post-consumer carpet’s backing/fillers into other products that require fillers.

CARE will aggregate this information into a document that will list funds expended in total by the mills in each of the six types of projects (listed above) that are being done by the mills. The data will not disclose the individual company names, or the money spent by individual companies or type of project they worked on. The compiled information will be provided as part of the Program’s annual report.

The Mills will be required to complete this survey as part of being a “mill in good standing” to sell into California market.

Additionally, the Mills will know that this information can and will be audited in the years where their company is selected for an AUP Audit.

Data collected through these annual surveys will be reported in the Program’s annual report. The data will also serve as a foundation to inform additional recyclability and recycled content strategies that may be developed over the term of the Plan.

CARE is also supporting the ReMade initiative to further enable technology development in this area. See the Research & Development section on page 163 for more details.
G. Financing Mechanism

This chapter presents the financing mechanism and budget for 2018 and the 2019-2022 forecast budgets, along with the guiding principles used to develop the budget for the full period of the Plan.

Summary of Forecasted Average Assessment Levels Over Term:

- Assessment through December 31, 2018: $0.25/square yard
- Average assessment effective January 1, 2019: $0.35/square yard

The budget presented in this Plan is based on an initial continuation of the current assessment level of $0.25 per square yard of carpet sold. This assessment level was effective January 2017 and will remain in effect through December 2018. The budget also assumes that the average assessment level will increase to $0.35 per square yard of carpet sold, effective January 1, 2019. Noticing for planned assessment changes will be conducted over a 90-day period consistent with processes established under the prior Plan and will commence beginning in October 2018. The Program will endeavor to minimize the number of assessment changes over the term of the Plan.

Assessment Impact on Carpet Sales

The graph and data table below (Figure 8) present recent history of sales in square yards in California compared with the 49 rest of the United States. This data clearly demonstrates that there has been an accelerating decline of sales in California as compared to the other 49 states. From 2013 through 2017, the average annual sales decline in California was 4.5 times greater than that for the rest of the country. The cumulative decline in sales in California over this period is -10% compared to -2% in the rest of the United States. Historically, every additional $0.05 per square yard in the assessment has resulted in approximately a 2% decline in annual carpet shipments to California. However, this sales decline rate has accelerated to 3% and 4% over the last two years, respectively, as the assessment has climbed from $0.10 per square yard to $0.25 per square yard.
In addition, an economic analysis was prepared for the CRI by the firm Bates White Economic Consulting (see Attachment 10). This study concluded that “the assessment fee has had a significant, negative impact on California carpet shipments.” The study further states: “Our analysis also demonstrates that the demand for carpet shipped to California is highly sensitive to even small changes in price. Consequently, additional increases in the
assessment fee would further reduce California carpet shipments significantly."

This study and its findings have been discussed extensively with CalRecycle. All parties now understand that by increasing the assessment to 35 cents on January 1, 2019, could have significant adverse impacts on California carpet sales, possibly leading to a precipitous decline, which no one wants. Should this occur, we believe it would be important to revisit the assessment structure to assure that the Carpet Stewardship Laws are complied with, including that “The amount of the assessment shall not create an unfair advantage in the marketplace.

As has been discussed with many stakeholders, the management of PCC under the Stewardship Program has unique challenges when compared with other stewardship programs (e.g. paint, batteries, mattresses, etc.). Unlike these other products, carpet has competition in the marketplace of well-established, competitively priced, easily obtained, acceptable flooring alternatives for the consumer to choose.

It is clear that the assessment imposed on carpet in California to date has reduced carpet sales in favor of these alternative flooring products. The sales of alternative products are expanding faster than carpet because carpet is being disadvantaged. Higher assessments and the resulting substitution will only reduce carpet sales further and will negatively impact the achievement of California’s environmental goals.

Therefore, this Plan recognizes the need to balance the objectives of increasing the Recycling Rate of PCC and preserving the economic acceptance of consumers for carpet versus the acceptable substitution of the alternative flooring materials. This Plan aims to achieve that necessary balance so that the assessment adequately funds the recycling program and achieves its stated goals but does not create an unfair advantage in the marketplace. Therefore, CARE welcomes the opportunity to stay engaged with CalRecycle to ensure that the assessment is adequate but is not creating an unfair advantage in the marketplace.

Based upon the accelerating decline in carpet sales in California, whether the current assessment of $0.25 per square yard may have already reached that “tipping point” in the marketplace. The effect of the proposed assessment of $0.35 per square yard may be the significant destruction of large segments of the carpet market in California. Therefore, CARE welcomes the opportunity to stay engaged with CalRecycle to ensure that
the assessment under this Plan is adequate but is not creating an unfair advantage in the marketplace.

**Differential Assessment Consideration**

CARE is currently engaged in internal discussions to consider the potential adoption of differential assessments over the course of the Plan. In the future, the Program may apply differential assessments such as for different fiber types, market segments, or price; for example, the average assessment in Year 3 might be 35 cents, made up of 2 or 3 different assessments for different categories. While this Plan is currently built on the concept of a single assessment level, CARE retains the ability to adopt a differential assessment over the course of this Plan if it is deemed to be in the best interest of achieving the goals of the Plan and the requirements of the statute. Both the Advisory Committee and CalRecycle would be consulted to provide input on such an approach, should CARE elect to move forward with development of a differential assessment model. In addition, CARE may also consider hosting a public stakeholder workshop and/or a targeted mill/retailer participant workshop to solicit broader input on the potential implications, benefits, or challenges with adopting such an approach. CARE will summarize stakeholder feedback obtained through such activities prior to adopting such a model and will follow other decision-making processes outlined in this plan including providing a rationale for adoption if enacted.

The Advisory Committee under recommendation February 2018 3.1 has asked CARE to implement differential assessments within one year of Plan approval. CARE has committed to evaluate the implementation of differential assessments. However, it is not feasible to implement such a complex initiative on such a short timeframe. It is important to recognize there are strong opinions on all sides. CARE expects to reach a recommendation within 12 months of Plan approval. However, timing will be a challenge from an implementation perspective at the retail level and requires a focused and intense communication outreach effort. Normal assessment changes require 90 days to notice and implement. Differential assessment changes necessary at the retail level will take longer and thus, a minimum of six months is needed to make such a change in the assessment system. Retail level changes involve reprogramming of point-of-purchase computer systems and education of the salesforce. The negotiation of contracts, reprogramming, testing and upload to “go live” requires careful planning and realistic timing for retailers. Multiple stakeholders will find this challenging.
Therefore, it is not feasible to implement such a recommendation within 12 months. Timing of implementation will depend on the outcome of the evaluation and careful planning.

This Plan includes funding amounts that will provide sufficient funding to carry out the Program, including the administrative, operational, and capital costs of the Plan; payment of fees; subsidy and incentive payments that will advance the objectives of the Carpet Stewardship Laws. CARE has consulted with the flooring industry to ensure, pursuant to PRC Section 42972(c)(2), that the amount of the fees described in this Plan do “not create an unfair advantage in the marketplace.”

CARE is and must continue to be sensitive to the fact that—unlike other products subject to stewardship fees in California such as bottles, paint, and mattresses—carpet products have customer-accepted, viable, competitively priced, and readily available alternative floor covering options, including wood, vinyl, ceramic, stone, engineered wood, and rugs. As foreseen by the Legislature, the assessment under the Carpet Stewardship Laws will influence California consumers’ purchasing choices and, if the assessment becomes too high, it will negatively affect the competitive marketplace.

Future considerations of increased assessments will need careful thought and study to ensure that the mandate of the Carpet Stewardship Laws for a fair marketplace is maintained. With this in mind, the Plan continues to balance the positive potential effect of more assessment revenue to facilitate a reduction in disposal and recycling goals with the potential of negative disruption of the marketplace. Additionally, CARE is sensitive to the fact that decreased new carpet sales in California, which has been experienced in the past four years, will have the effect of decreasing the amount of funding available to meet the objectives of this Plan (that is, fewer units of carpet sold means a reduced revenue stream at a constant assessment amount).

Given the complexity of the marketplace and recognition of a continued decline in new carpet sales, which generates the program’s revenue stream, a price elasticity study was undertaken by the CRI. The key results concluded that carpet pricing is highly elastic and sales of carpet in California have been adversely impacted by the assessment increases. Further details are summarized in a quantitative study by Bates White submitted to CalRecycle in July 2017, available on CalRecycle’s website, and are incorporated by reference (www.calrecycle.ca.gov/carpet/). CARE will use the teachings of this elasticity study and later updates to the study to inform future determinations of potential assessment increases.
In keeping with the California Code of Regulations, Section 18943(a)(7), the financing mechanism for the Plan includes the following elements:

- A carpet stewardship assessment per square yard of carpet sold in California.
- A budget that includes revenue estimates from the assessment, full program costs, and administrative costs, including service payments to CalRecycle.
- A requirement that any surplus funds will be put back into the Program to reduce the costs of the Program, including the assessment amount.
- An assessment amount that is sufficient to meet, but not exceed, the anticipated cost of carrying out the Plan.
- An assessment amount that does not create an unfair advantage in the marketplace.
- An allocation of funds that support the solid waste management hierarchy and program performance goals identified in the stewardship Plan.
- The elimination of subsidy payments for any form of direct landfilling, incineration, Waste-to-Energy, cement kiln or CAAF energy recovery.
- Assessment funds will not be used to pay civil fines.
- The stewardship organization and Carpet Mills shall allocate revenues and expenditures applicable to this Program in accordance with Generally Accepted Accounting Principles (GAAP).
- The Plan shall describe how the collection and expenditure of carpet assessment funds shall be kept separate from other activities of the stewardship organization, and Program receipts and expenditures will be reviewed by an independent auditing firm.
Setting Assessments

Setting of the requisite average assessment to adequately fund the Plan is an exercise in balancing many elements. The SPC took the following approach when setting assessment requirements and timing for the current Plan period:

A. CARE solicited stakeholder input via 2016 public workshops and Council meetings throughout 2016 and 2017. This process generated over 400 ideas, which were synthesized into approximately 60 tactics under 7 key strategy areas. Council members ranked these priorities in June 2016. In June 2017, Council members revisited these priorities to identify the top recommendations for this Plan. CARE assigned budget values to each priority within the financial modeling tool used to evaluate the impact of various selections within the Plan. And in July 2017 Council made 9 specific recommendations to the SPC. All 9 have been incorporated and funded in this Plan, in whole or in part.

B. CARE created scenarios by seeking additional input from collectors, processors and manufacturers as to their volumes, capacity expansions (new or existing), product outlets (new or existing) and anticipating market dynamics when/where possible. CARE created dozens of scenarios based on a combination of:

- Collection estimates.
- Type 1 pounds output.
- Tier 2 pounds output.
- PC4 (calcium carbonate) backing sales.
- Adding various potential new subsidies such as the new collector/sorter tile collection pilot subsidy of 5 cents/lb., the new commercial carpet processing pilot subsidy of 2 cents/lb., and a pilot N6 subsidy at 10 cents/lb.
- Adding more funds to other strategy areas including: the grant category, E&O budget, more funds to allow for additional staffing (either CARE FTE’s and/or contractors), more funds to allow for various studies, and technical/marketing support, etc.
C. Once the various scenarios were built, CARE looked at all program expenses, both administrative (e.g., legal, accounting, insurance, CalRecycle fees) as well as program-related (e.g., meetings, tabling, printing of collateral materials, installer training, collections).

D. CARE examined historical sales trends in the state and used projections for a continuing decline. This is important since it impacts program revenue calculation and is tied to setting assessment levels and change points.

E. Items B and C, above in this list, were built on a monthly basis through 5 years of the Plan life. Once items B and C were completed, all costs were totaled. Total costs were divided by the expected sales and, on a quarterly basis, a true cost per square yard by quarter was calculated. This calculation represents the standalone funding required to keep the fund solvent at the planned 2-month reserve level.

F. Once item E, above in this list, was calculated, the existing fund balance was rolled forward to calculate a net fund balance by quarter. Next is the iterative process of adjusting the assessment looking at sales volume, level of increase, and timing to ensure the Plan is adequately funded to achieve the goals stated, while preserving the reserve to ensure the Program’s ability to pay subsidies and other costs.

Given the challenges in forecasting future output and in what categories, the first year of the Plan, 2018, has a detailed budget while the remaining four years of the Plan are considered forecasts. Each year CARE will create a formal budget for the subsequent year based on what has transpired in the recycling world through the first 3 quarters of the current Plan year. Annually updated budgets will be presented to the SPC and shared with CalRecycle at an informal quarterly meeting, likely during Q3 Review.

It should be noted this was an iterative process since market feedback, recycler dynamics, and unanticipated developments are constantly changing. Moreover, it is difficult to ascertain whether a strategy or tactic will have the desired effect of increasing RO and to what degree. For instance, initial projections developed in mid-2016 for PC4 estimated that RO would increase from roughly 60,000 pounds in 2015 (when the subsidy was first launched) to 3 million pounds by 2020. Actual PC4 RO for 2016 exceeded projections reaching 2.6 million pounds, with 2017 year-to-date figures on pace to exceed 2020 projections. As such, CARE has modified these estimates in the new financial model to more accurately reflect current trends.
and the financial demand. In other cases, new subsidies have had an initial increase in RO that leveled off faster than anticipated.

These examples underscore the iterative and inexact nature of this process, while also highlighting the tools which CARE has developed to more accurately track these trends and make adjustments over time. With monthly subsidy reporting processes in place for example, CARE is able to receive and input data into the financial model on a regular basis, giving the Program trend information within as little as 2 months and enabling more rapid response to dynamic changes in the marketplace close to real time.

To further facilitate the understanding of recycling costs and setting assessments, CARE will develop and conduct a workshop for CalRecycle staff before the end of 2018. In addition, CARE will offer to sponsor a visit to the east coast to familiarize staff and Advisory Committee members with carpet manufacturing and recycling technology. Also note, CARE cannot publish confidential information associated with the cost of recycling due to the wide range of systems and small universe of recyclers.

Assessment

The recycling community desires stability in level and duration of subsidies to support sound financial decisions. Likewise, the carpet industry is looking to understand assessment stability and levels into the future and how such changes impact sales of new carpet in California. Independent analysis indicates as assessment levels increase, carpet sales are expected to fall. This has the double impact of reduced sales dollars for the mills, an undesirable impact for the industry and for jobs in California, and a reduced revenue flow to support the Plan.

The Plan provides for a significant level of increase in the assessment to fund recycling output and program growth as dictated by market dynamics. As such, this Plan is fully and aggressively funded as required by the Carpet Stewardship Laws. CARE will be monitoring financial performance monthly and should any unanticipated funding concern arise in the future, CARE will timely meet with CalRecycle and the Advisory Committee to discuss an appropriate plan of action. The Program will target a maximum of two increases during the planning period of 2018-2022 and may apply differential assessments for different fiber types, market segments, or other mechanism to be defined.
Guiding Principles

The following guiding principles were used to develop the financing mechanism:

1. Comply with the requirements of the Carpet Stewardship Laws.

2. Meet the goals of the Carpet Stewardship Laws to provide incentives for the following:
   
   i. Increase recyclability of carpets.
   
   ii. Expand and incentivize markets made from post-consumer carpet.
   
   iii. Increase the reuse of post-consumer carpet.
   
   iv. Increase the weight of post-consumer carpet that is recycled.
   
   v. Reduce the disposal of post-consumer carpets.
   
   vi. Increase the collection convenience for the recycling of post-consumer carpet and increase the collection of post-consumer for recycling.
   
   vii. Increase processor capacity, including processor capacity in California.
   

3. Achieve economic sustainability, including the following:
   
   i. Funds should maximize increased long-term use of post-consumer recycled carpet content in new and existing products.
   
   ii. Funds utilization is prioritized for actual output (i.e., performance, rather than potential opportunities)
   
   iii. Funding may also be utilized to develop capacity and accelerate growth.
   
   iv. Collectors’ market prices should provide economic basis for supporting goals.
   
   v. Subsidy funds are paid out monthly to assist with participant cash flow and provide more timely market intelligence to aid responsiveness to market dynamics.
vi. Carpet Mills report quarterly to remit assessment funds and provide other data. (Note this provision may change to monthly in the future to facilitate Program cash flow management.)

vii. The Program will develop and utilize tools (such as economic model, cash-flow analysis, etc.) to analyze financing scenarios and recommend most effective options to meet the goals of the Carpet Stewardship Laws while preserving the integrity of the fund itself.

viii. The Program will work to control administrative costs.

ix. Program delivery services shall be considered implementation rather than administrative costs.

x. The fund should be economically healthy by maintaining a reserve, currently set at a two-month average based on the prior 3 months total expenses. (Note this reserve level may be modified in the future to maximize cash availability.)

xi. The fund cannot borrow even from anticipated future assessments.

4. Maintain a carpet flooring industry that is both economically sustainable and viable.

5. Stewardship fund management hierarchy:

   i. Funds will be managed in line with the waste hierarchy.

   ii. Priority is on funding Type 1 and manufacturer recycled output materials.

   iii. Tiers and limits may be used to support a broad recycling infrastructure.

   iv. Energy recovery will only be used, but will not be subsidized, to enable the achievement of a reduction in disposal for materials that cannot be recycled, while more economic end uses are developed and strengthened.

6. The funding mechanism may be adjusted as needed, based on market conditions and progress made to meet or exceed the Plan goals under the Carpet Stewardship Laws, while not creating an unfair advantage in the marketplace.
Consistent with Advisory Committee recommendation February 2018 6-2, CARE will develop a policy to set limits beyond which a formal RFP process will be followed for major projects and engagements. CARE typically follows such a general guideline and often sets contracts for multiple years depending on the nature of the engagement and the expectation of ongoing work. This facilitates relationship building, development of a deeper understanding of the Program and workflow efficiencies. A target date for adoption of this policy is set for January 2019.

The SPC has taken into consideration many ideas from many sources, including the Council, for influencing the supply chain. Indeed, many of the Council ideas generated during 2016 and 2017 meeting series form the foundation of this Plan, from the 7 major strategy elements to the many sub-elements or focus areas within each strategy with may be activated, increased or adjusted over the course of this Plan. Significant growth in recycled output and Tier 2 output is anticipated over the next 5 years. Based on current new carpet sales projections, CARE estimates it will require approximately 1.1 cents be added to the average assessment for every $1 million increase in program costs. This estimate will increase as sales decline. It would be impossible to cover all the options discussed over hundreds of hours of Council and stakeholder meetings, analysis and brainstorming. Thus, the underlying strategy to build flexibility into the Plan which will allow for the use of any and all such tools (levers) as market dynamics dictate. The fact that they are not explicitly laid out at this time is due to the dynamic and rapidly evolving issues to which CARE must respond. However, there are specific Council-related ideas that are incorporated into the 5-Year Plan and these have been laid out on page 233 in the section on California Council on Carpet Recycling.

The current subsidy structure is based on experience gained over the last 6 years informed by market feedback. For example, PET subsidies were increased from 12 cents per pound to 17 cents per pound, and then to 25 cents per pound. CARE is holding the subsidy level at 25 cents per pound because solid development interest emerged at that price point. The same is true for PC4 which started at 7 cents per pound and moved to 12 cents per pound and finally 17 cents per pound. It is reasonable to expect that once markets are established such subsidies might be adjusted downward, but at levels that maintain continued usage. While these examples were arrived at through a market auction, CARE is developing more sophisticated models to help refine payout levels in future years such that initial selections, informed by improved market data, are more likely to stimulate the desired response.
with fewer iterative adjustments. Other subsidies are being discussed and will be implemented if/when the market feedback indicates the need.

Given the solid growth CARE is now seeing in recycled output (which includes time for incubation and market uptake) after the increased subsidies and grants implemented in 2015 and 2016, the formula for growth is now delivering desired improvements and should be given adequate time to implement and realize market results given response times can take from 6 to 18 months or more.

CARE has now developed three complementary models to help inform and guide decision making around subsidies, market forces, etc. The models are:

- **Economic Model**: using historical data, the model is designed to be forward looking and takes into consideration macroeconomic factors such as housing starts, oil prices, natural gas prices, virgin and recycled polymer prices, etc. This model was developed with Program funds.

- **Financial Model**: Designed to provide CARE the ability to examine scenarios and their impact on cash flow, assessment requirements, and program element cost allocations (e.g., grants, technical support, staffing, contractor engagement, etc.). This model will inform assessment increases and was developed in part with Program fund.

- **Conversion Cost Model**: Designed to give information on processing conversion costs to aid rational design of subsidy levels. This model was developed with funding from CARE.

These models are first of their kind and have never been assembled for post-consumer carpet before. They are in various stages of development and sophistication. CARE is committed to maintaining and refining the models. Additional details regarding these tools is presented below. High-level summaries of all three models may be found in *Attachment 9*. 
Under contract with the Louis Berger Group, CARE has developed an Economic Model capable of comprehensive planning, price prediction and facilitating subsidy deliberations. The model, which is now in the initial stages of implementation, has been reviewed with CalRecycle and the California Council on Carpet Recycling. The model accounts for global, U.S., and California-based macro-economic data from independent sources, some of which are published by the State of California, to make forecasts. Initial testing of the model's predictive abilities to determine virgin material prices was reasonably close for PET and PP. For nylon, a calibration factor was created from private market participants that rendered the revised forecasts closer to actual market observations.

In the model's evolution to date, inputs from private market participants has enabled more refinement to show that PCC fibers compete more directly against post-industrial material fiber prices. Therefore, more recent developments regarding competing post-industrial material prices and conversion costs have been integrated into the model. The model contains an adjustment that predicts post-industrial prices from relationships to virgin price spreads. Conversion costs for processing are currently being developed at a high level and refined within the model to protect proprietary information. Part of this Plan is to develop the model with additional data points provided by market participants (not currently available within any external private or public datasets) and to gain experience in its application to further refine financial decision-making and subsidy facilitation.

The Financial Model is a second-generation model incorporating a tiered subsidy approach. Developed internally by CARE and in collaboration with Aprio, this model allows for a variety of input parameters based on assumptions regarding recycled output performance and a variety of expenses including grants, salaries, education and outreach, contractor services, technical assistance, accounting and legal expenses, CalRecycle administrative fees, collection costs, etc. The model outputs estimated subsidy payments, assessment requirements to fund Plan activities, fund balances, etc. based on various scenario packages of activated strategy elements. The model allows for a wide range of “what-if” scenarios to be evaluated and compared to inform decision making under this Plan.
The **Conversion Cost Model** has been developed by Frank Endrenyi in collaboration with Dr. Matthew Realff (Georgia Tech) and CARE. This brand-new model looks at the full details for a carpet recycling operation and allows great flexibility in inputs to generate true operational costs and profitability profiles for any operation. By examining a variety of existing and theoretical businesses using this tool, CARE can better understand and quantify the level of subsidy which may be necessary to ensure a viable business model and/or account for the activation cost for businesses to enter into new operational approaches. Activation costs refer to the incentive necessary for a business to switch to a new raw materials source, in this case PCC.

As an example, recent developments regarding N6 are now being discussed under the provisions of the new Plan. The economic model, in conjunction with the conversion cost model is currently at a stage where we have an initial degree of confidence that it can be refined and used to conduct what-if scenarios on price movement and differentials for virgin versus post-industrial versus recycled PCC polymers and materials.

The new models are tools meant to help enhance CARE’s ability to meet the goals of this Plan, better understand and quantify the potential cost relationships between individual incentive allocations and pounds of materials flows, and to be more responsive to the changes that occur in the marketplace. CARE will be working to not only refine all three models, but on how to integrate the complementary outputs to guide decision making over the term of the Plan. To that end, CARE has formed an Integrated Modeling Task Force to work on the further refinement, integration, and use of these tools.
Scenario Response Strategy

CARE has built the 5-year plan predicated on a targeted 27% recycled output by December 31, 2022. Based on experience we know we cannot forecast what the markets are going to do more than 3-6 months in advance. The models will be employed to aid this analysis. As a result, CARE will take the following strategic process steps as markets evolve:

1. RO grows at a pace faster than anticipated: The CARE process will track monthly trends, evaluate quarterly data (frequency of sales feedback), assess sales and resulting assessment revenue and fund balance impact, determine rate of change and move to increase assessments within Plan parameters to offset increase subsidy funds flow as required. Assessment increase is not projected to exceed an average 35 cents per square yard during the time interval of that assessment level.

2. RO stays within forecasted projections: The CARE process will track monthly trends, evaluate quarterly data (frequency of sales feedback), assess sales and resulting assessment revenue to determine rate of change and fund balance implications. In this scenario, the Plan is expected to be adequately funded.

3. RO drops below forecasted increase: The CARE process will track monthly trends, evaluate quarterly data (frequency of sales feedback), assess sales and resulting assessment revenue and assess fund balance impact. Consideration of how to increase RO will include an evaluation of, but not limited to:
   a. Increasing existing subsidies
   b. Adding new subsidies and/or grants
   c. Adding growth incentives
   d. Expanding product and market development support
   e. Seeking Advisory Committee and stakeholder guidance
   f. Additional controls on administrative costs

Table 13 presents the proposed financing budget for the Plan period, including anticipated revenues, expenses, and net income. During each calendar year of the Plan, CARE will reforecast a budget for the following calendar year such that a budget period of at least one full calendar year is
available. Experience has indicated that the dynamic market conditions do not allow for meaningful forecast beyond one full year.

**Assessment Remittance**

Since the Program launched in 2011, retailers and dealers have been partners in helping California achieve its carpet recycling goals by collecting and remitting the Carpet Stewardship Assessment. For retailers or dealers, the Carpet Stewardship Assessment is charged by the Carpet Mill(s) as an after-tax line item on all invoices for carpet sold or shipped into California. In turn, retailers and dealers are responsible for including the assessment as an after-tax line item on all consumer invoices for carpet sold in California at the point of sale. Carpet Mills remit the assessments collected from retailer/dealer sales on a quarterly basis to a third-party accounting firm. Upon receipt, CARE manages these funds to support recycling of post-consumer carpet. When retailers and dealers pay Carpet Mill invoices that include this assessment, retailers and dealers are doing their part in remitting the assessment. Examples of invoices and other materials to support retailers, dealers, and Carpet Mills are available on the CARE website. Figure 9 shows how Program assessment funds are collected and distributed.

**Figure 9. Flow of Assessment Funds**
Program Expenditures

Funds collected through the assessment are used to fund various program resources offered under this Plan, which may include subsidies, grants, technical assistance, education and outreach, research and development, drop-off site collection, accounting services for routine reporting, agreed upon procedures (AUPs), report preparation, special analyses, legal support for program administration, or other incentives. As shown in Figure 10, approximately 70% of Program funds were distributed as recycler payments (includes subsidies and/or incentives to collector/sorters, processors, and manufacturers) in 2017.

Figure 11 shows the percentage of budget expenditures in 2017 and 2016, to illustrate the current baseline of major investment areas. The figure illustrates that subsidies form the primary method of investment under this Plan to support program goals. Increases in grants, staffing (personnel/other), and E&O in 2017 versus 2016 show these areas as a more moderate but growing percentage of the overall budget. Under this Plan, these trends are expected to generally hold steady, although precise allocations of funds may be adjusted over the Plan term.

Major investment areas included in the budget are:

- **Subsidies (recycler payments)** will remain the principal investment strategy to achieve program goals (anticipated to range from 60-75% of total expenses) and are subject to change notification commitments.
- **Incentives** are additional payments that supplement subsidies but are not subject to the same time notification requirements as subsidies.
- **Staffing/technical assistance/admin** is an essential investment area to support successful implementation of all strategy areas adopted under this Plan (anticipated to range from 10-15% of total expenses).
- **Grants/R&D** have proven to be an important activation incentive in expanding capacity, developing new recycled products and technology innovations, improving collection/reuse, and supporting other goals under this Plan (anticipated to range from 5-15% of total expenses).
- **Collection supports** drop-off site subsidized service for California counties in line with convenient collection goals (anticipated to range 5-10% of total expenses).
• Education and outreach (E&O) forms a primary mechanism for increasing awareness, encouraging participation among the wide variety of audiences across all program goals. In accordance with Advisory Committee recommendation February 2018 9.2, CARE will limit E&O expenditures to a maximum of approximately 3.5% of total annual budget.

• The CalRecycle administrative fee is established by legislation and cannot exceed 5% (it is anticipated that this fee will remain at a relatively constant dollar amount over the Plan, although may constitute a smaller percentage of the overall budget over time as the fund increases with higher assessment levels).

• Legal/Accounting and related administrative oversight is expected to represent the smallest portion of the budget (2-5% of total expenses).

Figure 10 provides a summary of expenses by spending category for 2017. Figure 11 and Figure 12 compare 2017 and 2016 program expenditures by percentage and dollar amount.

Figure 10. Program Expenditures, 2017*

*Actual expenses through 12/31/2017, independent audit completed.
Figure 11. Program Expenses, by Percentage, 2016 and 2017

Note: CARE Admin has changed over time as CARE has chosen to break out program elements in more detail.

Figure 12. Total Program Expenses, 2016 and 2017

Note: CARE Admin has changed over time as CARE has chosen to break out program elements in more detail.
The following budget provides estimates by budget category for the term of the Plan. CARE retains the ability to shift budgeted dollars between line items based on total available funds and Program priorities as market conditions change, subsidies may change as needed to achieve Program goals throughout the Plan term. The reserve is equal to a two-month average of total program expenses over the last quarter (last 3 months divided by 3 times 2). This adjustment enables the Program to deploy more funding to achieve the goals of the Program while maintaining an adequate risk control reserve.

The budget presents a five-year look at the Program based solely upon best available current information, existing subsidies and expenditures and assumes that the structure of the subsidies will remain constant throughout the five-year period. This will not happen, and changes in the Program subsidies, grants, programs, and other expenses will be modified over time to reflect new market dynamics and changing circumstances. We have developed, with the assistance of the Council, many program ideas and initiatives which will be used over the five-year Plan period to address changing needs. As with the first five-year Plan under AB 2398, we fully expect that Year 5 of the new Plan will look much different than Year 1 of the new Plan.

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12 It is worthy of note that California sales of new carpet have been declining each year since this program began, although sales for the remainder of the country continue to grow. Thus, the base assumption has been made that sales in California continue to decline over the life of this Plan. As sales continue to decline, revenue will be reduced. It is the opinion of CARE that sales will not likely exceed this annual sales estimates.
The Plan budget shows the assessment per square yard will remain at $0.25/yd² through calendar year 2018 before moving to an average of $0.35 per square yard in 2019. There are multiple reasons for taking this approach to the assessment:

1. **Program Fund Balance**: The Program fund balance, as of November 2017, was approximately $11.3 million and climbing. It is expected to reach perhaps $15 million by the end of Q1 2018 based on recycled output projections in Q4 2017 and Q1 2018. This provides an ample cushion to allow for increased subsidy payouts later in 2018 as specific new processors come online and will bring the fund balance back into a more historical range. CARE believes this approach represents good stewardship of the funds and appropriate planning for fund management as required by statute.

2. **Financial Modeling**: CARE’s financial modeling, as shown in Attachment 9B, indicates that the $0.25/yd² assessment level, in conjunction with the program fund balance, is sufficient to meet the requirements of statute through December 31, 2018; if further shows that an average of $0.35/yd² assessment level is sufficient to fully fund the Plan as outlined in this Plan given the basic assumptions are realistic.

3. **Plan Approval Timeline**: Due to the passage of AB 1158 and the subsequent delay in the Plan submission and approval timeline, it is not practical to forecast a change in the assessment prior to January 1, 2019.

A detailed narrative of each line in the budget table may be found in Attachment 4. In addition, an enlarged version of the budget table is also included starting on page 275.
Table 13. California Carpet Stewardship Program Budget, 2018-2022 (part 1 of 9)

<table>
<thead>
<tr>
<th></th>
<th>Budget/Forecast 5 Year: 2018 - 2022</th>
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<th>D</th>
<th>E</th>
<th>F</th>
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<td>Beginning Fund Balance</td>
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<td>Assessments &amp; Interest Income</td>
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<td>6</td>
<td>Estimated Sales in Square Yards</td>
<td>90,400,000</td>
<td>90,000,000</td>
<td>88,000,000</td>
<td>87,000,000</td>
<td>86,000,000</td>
<td>85,000,000</td>
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<td>Discards</td>
<td>336,364,434</td>
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<td>Forecasted Recycling Rate as of 12/31/XX</td>
<td>16.7%</td>
<td>24.3%</td>
<td>25.8%</td>
<td>26.1%</td>
<td>26.7%</td>
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<td>Pounds of Recycled Output required to meet forecasted percentage</td>
<td>51,697,062</td>
<td>69,045,491</td>
<td>81,209,570</td>
<td>83,297,892</td>
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<td>Assessment Fee per Square Yard</td>
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<td>$ 0.35</td>
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<td>Program Assessments</td>
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<td>$ 30,793,377</td>
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<td>Interest Income</td>
<td>$ 10,772</td>
<td>$ 15,866</td>
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<td>14</td>
<td>Total Assessment Revenue &amp; Other Income</td>
<td>$ 22,727,277</td>
<td>$ 22,515,866</td>
<td>$ 30,805,332</td>
<td>$ 30,452,748</td>
<td>$ 30,100,637</td>
<td>$ 29,750,276</td>
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*2018 Actual through 5/2018 & Budgeted for remainder (12-10-2018)
### Table 13. California Carpet Stewardship Program Budget, 2018-2022 (part 2 of 9)

<table>
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<td>Subsidy Payouts</td>
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<td>CSE Payout Category</td>
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<tr>
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<td>CSE Reporting Incentive</td>
<td>$13,128</td>
<td>$257,572</td>
<td>$550,761</td>
<td>$675,609</td>
<td>$767,359</td>
<td>$718,557</td>
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<td>20</td>
<td>CSE Reporting Incentive Participants x 12 Months</td>
<td>$348</td>
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<td>$48</td>
<td>$48</td>
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<tr>
<td>21</td>
<td>Tile REUSE (Includes 5¢ Incentive Pilot as of 01/01/18)</td>
<td>13,128</td>
<td>257,572</td>
<td>550,761</td>
<td>675,609</td>
<td>767,359</td>
<td>718,557</td>
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<td>22</td>
<td>Tile REUSE Subsidy (per lb)**</td>
<td>$0.10</td>
<td>$0.15</td>
<td>$0.15</td>
<td>$0.15</td>
<td>$0.15</td>
<td>$0.15</td>
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<td>Tile REUSE Pounds</td>
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<td>1,963,678</td>
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<td>4,504,061</td>
<td>5,115,726</td>
<td>4,790,382</td>
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<td>Whole Carpet Shipped and Sold for recycling (CSEs)</td>
<td>201,022</td>
<td>213,285</td>
<td>176,835</td>
<td>176,835</td>
<td>176,835</td>
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<td>25</td>
<td>Whole Carpet (CSEs) Subsidy (per lb)**</td>
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<td>$0.02</td>
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<td>$0.02</td>
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<td>Whole Carpet (CSE) Pounds</td>
<td>10,664,263</td>
<td>8,841,740</td>
<td>8,841,740</td>
<td>8,841,740</td>
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<td>27</td>
<td>Whole Carpet Shipped and Sold for recycling (Processors)</td>
<td>660,539</td>
<td>1,179,883</td>
<td>1,723,410</td>
<td>2,077,495</td>
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<td>28</td>
<td>Whole Carpet (Processors) Subsidy (per lb)**</td>
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<td>$0.02</td>
<td>$0.02</td>
<td>$0.02</td>
<td>$0.02</td>
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<tr>
<td>29</td>
<td>Whole Carpet (Processors) Pounds</td>
<td>33,026,950</td>
<td>58,994,126</td>
<td>86,170,510</td>
<td>103,874,885</td>
<td>107,219,824</td>
<td>105,650,011</td>
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<td>Total All CSE Payouts</td>
<td>$908,689</td>
<td>$1,698,740</td>
<td>$2,499,006</td>
<td>$2,977,939</td>
<td>$3,136,590</td>
<td>$3,056,392</td>
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*2018 Actual through 5/2018 & Budgeted for remainder (12-10-2018)

**Only first tier rates are listed.
Table 13. California Carpet Stewardship Program Budget, 2018-2022 (part 3 of 9)

<table>
<thead>
<tr>
<th>A1</th>
<th>B</th>
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<tr>
<td></td>
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<td>Budget/Forecast</td>
<td>2017 Actual</td>
<td>2018 Budget/Actual*</td>
<td>2019 Forecast</td>
<td>2020 Forecast</td>
<td>2021 Forecast</td>
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<td>5 Year: 2018 - 2022</td>
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### Expenses

**Subsidy Payouts**

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<th>D</th>
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<td>Processor Payout Category</td>
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<tr>
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<td>Tile REUSE/Broadloom REUSE/Tile Recycled/Other</td>
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<td>$222,091</td>
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<td>$291,254</td>
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<td>32</td>
<td>A1</td>
<td>Varying subsidies. This is calculated by a percentage based on historical amounts.</td>
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<tr>
<td>33</td>
<td></td>
<td>Tier REUSE/Broadloom REUSE/Tile Recycled Subsidy (per lb)**</td>
<td>$3,542,100</td>
<td>$3,169,581</td>
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<td>$5,146,552</td>
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<td>Tier REUSE/Broadloom REUSE/Tile Recycled/Other Pounds</td>
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<tr>
<td>35</td>
<td></td>
<td>Tier 1 Processed Fiber</td>
<td>$3,542,100</td>
<td>$3,169,581</td>
<td>$4,136,184</td>
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<td>$5,146,552</td>
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<td>Tier 1 Processed Fiber Subsidy (per lb)**</td>
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<td>$0.10</td>
<td>$0.10</td>
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<td>Tier 1 Processed Fiber Pounds</td>
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<td>Type 1 Commercial Broadloom Incentive (Pilot)</td>
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<td>Type 1 Commercial Broadloom Incentive (Pilot) Subsidy (per lb)**</td>
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<td>$0.02</td>
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<td>Type 1 Commercial Broadloom Incentive (Pilot) Pounds</td>
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<td>Tier 1 PC4 (PCC Calcium Carbonate)</td>
<td>$1,791,384</td>
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<td>Tier 1 PC4 (PCC Calcium Carbonate) Subsidy (per lb)**</td>
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<td>Tier 1 PC4 (PCC Calcium Carbonate) Pounds</td>
<td>$10,537,553</td>
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<td>Type 1 Nylon 6 &amp; Nylon 66 HR Incentive</td>
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<td>Type 1 Nylon 6 &amp; Nylon 66 HR Incentive Subsidy (per lb)**</td>
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<td>Type 1 Nylon 6 &amp; Nylon 66 HR Incentive Pounds</td>
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<td>Type 2 CAAF</td>
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<td>Type 2 Kiln</td>
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<td>Total All Processor Payouts</td>
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<td>$10,381,854</td>
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*2018 Actual through 5/2018 & Budgeted for remainder (12-10-2018)

**Only first tier rates are listed.
### Table 13. California Carpet Stewardship Program Budget, 2018-2022 (part 4 of 9)

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<td>Budget/Forecast</td>
<td>2018 Budget/Forecast*</td>
<td>2019 Forecast</td>
<td>2020 Forecast</td>
<td>2021 Forecast</td>
<td>2022 Forecast</td>
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<td>51</td>
<td>Non-Nylon Tier 2 PET/PTT</td>
<td>$4,704,098</td>
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<td>Non-Nylon Tier 2 PET/PTT Subsidy (per lb)**</td>
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<td>$0.22</td>
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<td>Non-Nylon Tier 2 PET/PTT Pounds</td>
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<td>Nylon 6 &amp; Nylon 66 Tier 2 (Pilot)</td>
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<td>Nylon 6 &amp; Nylon 66 Tier 2 (Pilot) Subsidy (per lb)**</td>
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*2018 Actual through 5/2018 & Budgeted for remainder (12-10-2018)

**Only first tier rates are listed.
### Table 13. California Carpet Stewardship Program Budget, 2018-2022 (part 5 of 9)

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*2018 Actual through 5/2018 & Budgeted for remainder (12-10-2018)
**Only first tier rates are listed.*
### Table 13. California Carpet Stewardship Program Budget, 2018-2022 (part 6 of 9)

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*2018 Actual through 5/2018 & Budgeted for remainder (12-10-2018)

**Only first tier rates are listed.
**Table 13. California Carpet Stewardship Program Budget, 2018-2022 (part 7 of 9)**

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<td>2018 Budget/Actual*</td>
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*2018 Actual through 5/2018 & Budgeted for remainder (12-10-2018)

**Only first tier rates are listed.
## Table 13. California Carpet Stewardship Program Budget, 2018-2022 (part 8 of 9)

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*2018 Actual through 5/2018 & Budgeted for remainder (12-10-2018)

**Only first tier rates are listed.
Table 13. California Carpet Stewardship Program Budget, 2018-2022 (part 9 of 9)

<table>
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<td>Total Subsidy Payout</td>
<td>$11,140,550</td>
<td>$15,764,814</td>
<td>$18,036,207</td>
<td>$22,233,449</td>
<td>$22,201,260</td>
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<td>126</td>
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<td>Total Grant Expense</td>
<td>$1,443,722</td>
<td>$2,000,000</td>
<td>$5,100,000</td>
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<td>127</td>
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<td>Total Collections Expense</td>
<td>$678,444</td>
<td>$1,400,000</td>
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<td>Total E&amp;O and Technical Assistance Expense</td>
<td>$1,064,217</td>
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<td>Total Program Expense</td>
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<tr>
<td>131</td>
<td></td>
<td>Year-End Balances</td>
<td></td>
<td></td>
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<td>132</td>
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<td>Total Expenses</td>
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<td>Year-end Fund Balance (Includes Reserve)</td>
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<td>Reserve Year-End</td>
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</table>

*2018 Actual through 5/2018 & Budgeted for remainder (12-10-2018)
**Only first tier rates are listed.
H. Education and Outreach (E&O)

CARE’s California education and outreach (E&O) strategy and tactics are focused on increasing awareness, adoption of desired practices and effectiveness of communication in the carpet recycling ecosystem. The Program uses marketing-based metrics to assess the effectiveness of the outreach efforts. The marketing tactics are created to support the Program’s efforts around market development (leading to increased recycled output) and a reduction in disposal.

All marketing/outreach tactics are directly related to supporting the Program’s operational goals. For example, to increase gross collection, the Program interviewed installers in one region and found that a majority were unaware of carpet recycling options; once CARE informs more installers about the new CARE drop-off site in their area that accepts carpet for recycling at a reduced fee, more carpet will be diverted from landfill to that site. However, marketing/outreach can only do so much. The infrastructure of convenient drop-off must be in place, and the economics (cost to recycle vs. sending to landfill) must also favor recycling. These requirements (convenient and economical collection options) must be in place before outreach efforts to increase gross collection can be effective.

Over the next several years, as the carpet recycling industry begins to mature in California, operational opportunities will arise and will need E&O support along the way to ensure success. E&O efforts will exercise the flexibility to respond to these market changes and provide strategies and tactics to support operational success. E&O priorities will be guided by the Program’s goals and accomplishments. As more post-consumer carpet products become available, marketing them will take higher precedence. As collection sites become active, communicating those opportunities become a priority.
Guiding strategies for E&O efforts for CARE include:

- Conducting baseline measurements of awareness and behavior, with particular attention to barriers to the desired behavior.
- Multi-touch campaigns to reach target audiences multiple times within a time frame (as budget allows) to increase the likelihood of message retention.
- Combining in-person contacts with digital, print, social media content, and/or environmental graphic tactics as appropriate.
- Connecting marketing metrics (hits, reach, uptake of calls to action) to the operational goals of increasing recycling, collection, recycled output, etc.
- Expanding and developing target audiences as new initiatives (e.g., subsidies, new products, services, grant programs) warrant.
- Taking advantage of existing communications from interested parties (e.g., hauler newsletters, local government websites, and collection site signage).

At the heart of E&O efforts is the creation and maintenance of a database of stakeholders, housed in a customer relationship management (CRM) platform that allows the tracking of contacts, survey and research results, reporting over time, and changes in behavior (e.g., retailer X is now recycling carpet after three interactions with CARE.) This database will expand as more audiences (e.g., installers, local government, potential drop-off sites, procurement officials) are added.

How E&O Supports Market Development

Increasing recycled output involves supporting the efforts of the market development and grant programs of the California Carpet Stewardship Program. Market development for CARE consists of supporting the creation of more products using recycled carpet and by increasing awareness and demand for these products.

CARE’s strategy around market development focuses on supporting and increasing the number of processors that take post-consumer carpet and manufacturers that make it into useful products, including more carpet and padding as well as products such as insulation, plastic lumber, erosion...
control, stepping stones, etc. E&O supports product testing and capital improvement grant programs with stakeholder communication via email, webinars, website content, and handouts.

E&O supports communication with stakeholders and potential grantees about procurement grants, designed to increase demand for these recycled carpet products. The grants are supported via e-news, media releases, website copy, and webinars. In 2017, CARE tabled at the California Association of Public Procurement Officials (CAPPO) and at the Green California conferences to reach and engage the public officials most likely to be interested in procurement of recycled carpet products. The Program will continue to provide handouts and other support for CARE staff attending this and future conferences.

As more post-consumer carpet products become available, CARE will be promoting DoubleGreen™ and other recycled-content products. Guiding Green, LLC is undertaking a product certification project to support marketing efforts that will be implemented by CARE California communications agency Gigantic Idea Studio in 2018 and beyond.

How E&O Supports Increased Recycling and Reduced Disposal

To increase the recycling rate, several audiences need different kinds of outreach.

Retailers: During the first Plan, California retailers needed to be alerted to the Program in general, to its requirements, and to the assessment increases. (An assessment increase information campaign requires 3 months and involves multiple marketing channels.) In 2018 and beyond, the focus for retailers moves toward providing:

- Information about, and encouraging use of, drop-off opportunities, as more sites are added.
• Collateral (signs and brochures) that explains the carpet recycling process and its advantages to retailers, their customers, and the installers with whom they have relationships.

• Information about carpet products containing post-consumer recycled carpet.

*Installers:* Installers are a very diverse and hard-to-reach group, but they are key to diverting carpet to be recycled and away from landfill. The Program is working to establish communication channels with installers via the retailers with which they work, and it is growing a database of installers in the state. In 2017, as part of the Regional Strategy described below, the Program conducted appearances at installer supply distributors and retailers. Feedback shows that many installers are unaware of the opportunities for recycling carpet and often do not see the advantage, particularly if a recycling site is far away or charges a higher fee than landfill. Feedback is shared with CARE staff and tactics are being tested to see how barriers can be overcome. This is a good example of how E&O activities can directly impact and support increased recycling over time.

The Program currently provides installer-focused custom handouts to its drop-off sites to encourage installers to recycle the carpet they tear out and to advise on how it should be prepared. That service will continue as the number of drop-off sites increases. An installer-focused video, in both English and Spanish, has been produced and will continue to be promoted.

CARE has entered into an agreement with Certified Flooring Installers' Robert Varden, an experienced flooring installation instructor, to include recycling information in all California-based trainings. CARE developed customized content and helps to promote the trainings while capturing the participants’ information to continue to communicate with them afterwards.

*A note on Commercial Contractors:* We are aware that commercial carpet needs considerable outreach, but the Program is currently hampered by the lack of outlets for recycling commercial broadloom carpet. However, with the aid of a CARE grant, a new processor is siting a facility in California that is designed to include processing of commercial carpet. As such opportunities are established, the Program will initiate a more direct communications plan to engage commercial contractors and building owners who may be generating commercial carpet discards. Additionally, CARE plans to implement a new pilot commercial carpet recycling subsidy.
Drop-off Sites: Key to enabling a reduction in disposal is to increase not only the number of drop-off sites in the state but also to improve how they communicate, so that the right audiences know where the sites are and how to use them. CARE currently supports each new drop-off site with signage and custom, bilingual flyers to distribute to the installers and others who will bring carpet to the site. A survey of the current sites conducted in late 2016 shows support for the signs and flyers, with most respondents rating them very or somewhat useful. However, a survey of drop-off sites shows that they do not always list carpet or give clear instructions on their websites. In 2017, CARE began offering marketing advice and support, such as sample website copy, to drop-off sites to encourage them to feature carpet more prominently. In 2016, search engine ads were tested, to raise awareness of local drop-off sites in Los Angeles and Napa, with good results. This experiment will continue in 2017 and beyond as part of the E&O Regional Strategy (see next section below).


42972(a)(4). Include a funding mechanism, consistent with subdivision (c), that provides sufficient funding to carry out the plan, including the administrative, operational, and capital costs of the plan, payment of fees pursuant to Section 42977, and incentive payments that will advance the purposes of this chapter, including incentives or grants to state-approved apprenticeship programs for training apprentice and journey-level carpet installers in proper carpet recycling practices. Any grants or subsidies provided for the recycling of postconsumer carpet shall be structured to incentivize the recycling of carpet materials that have the highest recyclability. The funding mechanism shall account for the need to provide the industry, including carpet installation contractors, with fair notice of changes to the amount of the carpet stewardship assessment established pursuant to subdivision (c).

Incentives/Grants

Carpet Stewardship Laws mandate CARE provides incentives or grants to state-approved apprenticeship programs for training of apprentice and journey-level installers in proper carpet recycling practices. The Advisory Committee, in recommendation February 2018 9.1, reinforced this mandate.
This Plan incorporates specific activities and budgetary resources for incentives or grants to state-approved apprenticeship programs for training apprentice and journey-level carpet installers in proper carpet recycling practices to enable implementation of this requirement. CARE will proactively take action to support these activities by expanding and building upon efforts already underway.

Installers have been a primary identified audience since 2015, when Education and Outreach (E&O) activities were first expanded under the CARE Program. Early installer engagement efforts focused on providing flyers and signage to participating drop-off sites and local governments engaged in the Program. Launched in 2017, a new CARE installer focus area expanded these efforts to include curriculum development for installer trainings in partnership with Certified Floorcovering International (CFI), completion of an instructor Train-the-Trainer workshop, development of English and Spanish instructional videos, and deployment of an in-person outreach tabling campaign at installer supply houses throughout California. Considerable time and effort has been expended to develop these materials and relationships, which will be leveraged as resources to support future incentive, grant, and educational efforts, further targeting installers under this Plan.

Training curriculum modules along with installer videos in both English and Spanish are in place and have been well-received thus far, with the videos having been viewed more than 240,000 times. Nearly 100 tabling events at supply houses have served as key leverage points for installer contact, reaching over 1700 installers to date.

In considering installer training, CARE recognizes there are differences between commercial flooring and residential flooring installers in terms of the relative recyclability of the tear-outs being generated. Although CARE is aware of some cross-over, commercial and residential installers are generally assumed to focus within each respective market, with many installation companies and individual installers specializing in either residential or commercial installations. To date, installer outreach efforts have focused on residential installers for three reasons: residential sales represent approximately 70% of all installations; limited commercial carpet recycling infrastructure is presently available to accept commercial carpet tear-outs for recycling compared to residential carpet; and residential carpet is generally considered to have a higher overall recyclability than commercial carpet. Carpet tile, primarily used in the commercial space is an exception,
with a high recyclability, although the collection networks for tile recyclability are less developed.

With new commercial recycling capacity anticipated over the course of this Plan (as early as 2019), this Plan incorporates a new education component specifically targeting commercial installers, which will be developed and deployed in alignment with the timing of new available commercial infrastructure. This approach allows CARE to focus resources in the near-term on providing recycling solutions to the 70% of installers handling tear-out material at the end of life for which residential carpet recycling opportunities are available, while developing appropriate commercially focused training to be deployed for the remaining 30% of the installer community over the mid-term, as commercial recycling capacity is brought online.

Installer training activities to date included:

- Created installer focused collateral including site-specific drop-off site flyers, statewide drop-off site map, installer bumper stickers, and regional flyers, etc.
- Incorporated recycling curriculum into Certified Floorcovering Installers (CFI) trainings in California.
- Conducted “Train-the-Trainers” workshop presenting carpet recycling training to 22 carpet installation instructors from CFI at their annual meeting in Dallas, Texas. CFI completed two installer training workshops in California in 2017 for an estimated 50 installers.
- 1,729 installers were reached in person at 92 tabling events, held at installer supply houses and some retailers. Installers were greeted, answered brief survey questions related to carpet recycling awareness, and were provided with information on drop-off sites in their area along with proper carpet preparation tips.
- All 6 California Home Depot installer companies were contacted, and 1 site visit was conducted. The program will continue to develop
installer training opportunities with big-box stores and associated installation companies/contractors.

- Produced videos (in English and Spanish) on the importance of recycling and on the preparation of carpet for recycling.

- Promoted videos via a YouTube campaign and showing at tabling events. The Spanish video had over 127,000 views; the English version received 119,000 views.

- Use of targeted ad placement such as Floor Covering Installer magazine, which has a circulation of 34,000, targeting a segment of installers less likely to be reached via tabling events.

Under this Plan, installer training grants, incentives, and education and outreach will focus on training carpet installers, including state-approved apprenticeship programs for training apprentice and journey-level carpet installers, in proper carpet recycling practices, including the following major activities:

- **Installer training grants** – Funding for training in proper carpet recycling practices and incentives to state-approved apprenticeship programs for training apprentice and journey-level carpet installers and other eligible organizations. Anticipated Cycle 1T solicitation release Quarter 4 of 2018/Quarter 1 of 2019, following Plan approval. CARE may consider issuing one or more competitive Requests for Proposals in addition to or in place of grant solicitations.

- **Educational videos** – Production, distribution, and promotion—including both existing video and development of new video segments—to train carpet installers in proper carpet recycling practices such as but not limited to carpet tile recycling, commercial carpet recycling, recycling for big-box stores, carpet reuse, etc.

- **Educational curriculum kits** – Materials, collateral, videos, maps, stickers, and talking points for apprenticeship and journey-level training programs and other carpet installer training grantees regarding proper carpet recycling practices.

- **Supply house and retailer tabling events** – Continue in-person outreach at supply houses to train carpet installers in proper carpet recycling practices and at distribution centers and/or retailers to connect with installers, distribute messages, and collect data; include approximately 20 events statewide and 20 events in regional approach areas each year.
• **Big-box store outreach** – Launch big-box store outreach and education campaign to train carpet installer crews in proper carpet recycling practices; provide specialized videos or other materials; build partnerships with primary big-box retailers and coordinate with collector/sorter service providers.

• **Commercial materials development** – Development of new content, materials and resources to educate carpet installers in proper commercial carpet recycling practices including carpet tile recycling practices.

• **Targeted ad placement** – Promotions in relevant trade publications or newsletters such as *Floor Covering Installer* magazine targeting carpet installers regarding proper carpet recycling practices.

With the planning, development, and start-up of new commercial carpet processing capacity projected to increase the recyclability of commercial carpets, it is anticipated that development of this commercial installer outreach program segment would begin in Quarter 2 of 2019. However, given the limited available commercial recycling infrastructure currently in place, CARE anticipates continued primary focus on residential installer education in the first 1–2 years of this Plan, expanding the focus to target commercial installers in years 3–5. Coordination of this implementation will be conducted under close engagement with the approved apprenticeship program liaisons and will start by implementing outreach related to residential carpet recycling practices in year 1; building on carpet tile recovery, reuse, or recycling opportunities in years 2–3; and addressing commercial recycling in years 3–5.

According to the U.S. Bureau of Labor Statistics, it is estimated that there are approximately 5,600 installers in the state of California. Estimated membership in the related Northern and Southern California union locals is about 3,000 members. The absolute universe of installers in California is not fully understood presently. Additional installers, general contractors, laborers, or others may also be handling tear-out materials at the end of life and may be engaged under this installer workforce development with program maturity.

CARE will work with the Southern California Resilient Floor and Decorative Covering Craft Joint Apprentice and Training Committee and the Northern California Floor Covering Finishing Trade Institute Joint Apprenticeship Training Committee, including District Councils (DCs) 16 and 36 International Union of Painters and Allied Trades, as well as other appropriate contacts on
effective delivery of this installer education and training effort to train carpet installers in proper carpet recycling practices. Initial contact with these programs during 2018 will form the foundation for continued educational and incentive/grant development and disbursement beginning in 2019. Through initial discussions, CARE currently understands that these training programs are primarily targeted to commercial installers, although some installers may provide installation service for both residential and commercial applications. CARE will develop an inclusive workforce development installer training approach to ensure comprehensive engagement of both residential and commercial installer communities. Although preference will be given to approved apprenticeship and journey-level training programs, CARE may extend installer training grant/incentives eligibility to include other appropriate nonprofits, workforce training organizations, associations, or similar groups that serve installers, remodelers, contractors, and audiences responsible for management of carpet tear-out.

Based upon conversations with representatives from District Councils 16 and 36, representing the floor covering locals in Northern and Southern California respectively, this Plan allocates the following minimum annual resources for installer workforce development training development, delivery, and grants. Agreement was reached on this approach and when presented to the Advisory Committee, it was supported by the Union and no further recommendations were received from the Advisory Committee.

- Dedicate 10-20% of the total education and outreach budget to support communications material development and deployment of field campaign including, but not limited to, supply house tabling events, flyers, videos, collateral, website content, eNews, social media, digital ads, blogs, ad placement, etc. to train carpet installers in proper carpet recycling practices. Although the precise budget may be adjusted annually to support all program goals, 2019 allocates $130,000 to E&O installer engagement, and similar allocations are anticipated in 2020–2023.
- Dedicate a minimum of $100,000 annually to installer grants and incentives for training programs to train carpet installers in proper carpet recycling practices to be implemented by approved apprenticeship and journey-level training programs or other appropriate organizations.
- As the program matures, resources will be expanded to include more general contractors, commercial property owners/management companies, C&D facilities, and other organizations interfacing with
installers and laborers managing carpet tear-out at end of life to train these audiences in proper carpet recycling practices.

Understanding that many commercial flooring professionals may often be providing residential carpet installations as well, CARE envisions a dual program approach in the delivery of carpet recycling education and outreach. Following are the types of potential trainings that will be delivered by union and workforce training program grantees:

1) **Hands-On Train-the-Trainer** for incorporation of carpet and carpet tile recycling to complement existing Union floor covering and workforce trainings:
   
   A) Engage union and workforce training program/organizations.
   B) Use CARE’s existing curriculum and refined educational materials over term.
   C) Incorporate carpet recycling segments into new and existing installer trainings.

2) **Installer Annual Training Series:**
   
   A) Incorporate carpet recycling segments into new and existing installer trainings.
   B) Set training schedule and promote events.
   C) Design and provide incentives to encourage attendance, completion of training segment, and adoption of recycling practices.
   D) Track and report metrics.

3) **Continual Online Training/Learning Videos + Questions/Survey:**
   
   A) Training/Learning Videos
      
      - Commercial: Broadloom and Tile (to be developed)
        o Removal – Debris-free and dry, rolling/stacking.
        o Reuse – Incorporate reuse opportunities where feasible.
        o Recycling – Procedures for bringing carpet back to a recycling container at the installer/retailer shop, distribution center, CARE carpet recycling drop-off site, or job-site carpet recycling trailer/container, if available.
      
      - Residential: Broadloom (existing CARE video)
        o Removal – Debris-free and dry, rolling.
o Recycling – Procedures for bringing carpet back to a recycling container at the retailer, distribution site, or CARE carpet recycling drop-off site.

B) Post-Video Questions/Survey

- Include a modest number of brief educational narrative segments of review, each including a question with 3–4 answers, where the correct answer must be entered to proceed.
- Collect metrics related to baseline practices and/or commitments/interest in recycling.
- Capture Union District/Local #, name, date, type of installations done (commercial, residential, both), “commitment to recycle carpet,” “Thank you, you’ve been entered into an opportunity to win a _______.")
- Distribute incentives.

4) Booths at Annual Union Picnic(s) or similar events:

A) Display boards: Pictorial views of carpet recycling dos and don'ts.
B) Samples of products made from recycled carpet.
C) Pull-up banners.
D) Engagement activity: Brief educational survey with opportunity to win professionally relevant promotional item.

Annually, CARE sets forth the following minimum metrics to ensure delivery of apprenticeship trainings to train carpet installers in proper carpet recycling practices:

- 10 hands-on trainings in partnership with DC 16 and 36 or via workforce trainings.
- 100 video trainings and related survey completed.
- Annual educational booth and incentive promotion at each DC’s Annual Picnic.

Additional E&O activities will also continue under the CARE program to train carpet installers in proper carpet recycling practices including:

- 40 supply house trainings per year.
- New video development and promotion.
H. EDUCATION AND OUTREACH (E&O)

- Regularly updated collateral materials.
- Big-box store educational development.
- Additional components based on field conditions and installer/retailer feedback.

As the training program is developed, CARE will also proactively work to connect our collector/sorter and processor community with interested commercial flooring contractors to promote available pick-up service for those interested in establishing on-site carpet recycling collection containers.

CARE will also commit to conduct a pilot program focusing on the collection and consolidation of commercial broadloom carpet and/or carpet tile from smaller job sites. Included in the pilot, at a minimum, will be: on-site carpet recycling training for installers at their shop, educational materials/signage, coordination for carpet recycling bin and collection service, along with an installer and flooring contractor survey to elicit feedback to help facilitate expanded small-medium-sized job sites to facilitate carpet reuse and recycling collection opportunities. This pilot is anticipated to begin in 2020 and is designed to coordinate with new anticipated capacity to process commercial carpets.

E&O Regional Strategy

Given the size of the state and the varying levels of drop-off site service, the E&O strategy beginning in 2017 took a regional approach, targeting two regions that meet criteria around drop-off site quality, availability of processors of post-consumer carpet and number of retailers to maximize effectiveness with communication efforts. The Sacramento and Los Angeles areas were the first targeted regions, and employed CARE staff, the retailer outreach team and focused communication tactics (online and in-person) to raise awareness of carpet recycling opportunities by promoting the drop-off sites, visiting retailers, local government staff and installers and conducting public awareness for consumers (for example, Google ads aimed at informing the public about their local drop-off site).

CARE regularly assesses the results of these regional approaches to better understand the potential connection in increased use of carpet recycling and to drive a reduction in disposal. Learnings will then inform efforts in subsequent regions. For example, in 2017 successful installer outreach
events targeting recycling awareness at installer supply distributors in these regional areas led CARE to expand this tactic to other population areas outside of these regions. To date, over 1250 installers have been reached statewide using this tactic and resulting in increased baseline data for this important target audience (collected via surveys and input into the program CRM database), while also providing installers with readily actionable information about locally available drop-off site locations for carpet recycling.

Over time, the Program is working to compare outreach data to operational data within targeted regions to begin to evaluate potential correlations between E&O activities and increases in gross collections at nearby drop-off sites. While the program cannot tie gross collections from an individual site to a final recycling rate (due to the operational logistics of the recycling process which combines gross collections from multiple sites), the Program can make assumptions by using average conversion rates and other data to assess general trends affecting the amount of material recycled.

Understanding that E&O activities and target audience behavior may not operate on an identical time scale however (behavior change may be influenced through many concurrent and correlated factors), such data will be used as an indicator of Program effectiveness but not necessarily a direct causation agent. Moreover, generally accepted marketing practice suggest that audiences need to hear a message, on average, 17 times before changing a behavior. For this reason, the Program uses a variety of E&O channels to communicate a message to target audiences and tracks results as they are available over time.

**E&O Audience & Budget**

The Plan incorporates continuing education and outreach efforts to consumers, commercial building owners and managers, carpet installation contractors, and retailers to promote their participation in achieving this Plan. The Plan’s primary goals for education and outreach (E&O) are to:

- Establish communication networks and channels among key target audiences (retailers, installers, collection sites, and local government).
- Raise positive awareness of CARE, the California Carpet Stewardship Program, and Carpet Stewardship Laws through increased staff and outreach activities.
- Measure and increase compliance with requirements of Carpet Stewardship Laws among retailers.
E&O funding is proposed to be increased from $750,000 annually to $1,300,000 in 2018-2019 and then $1,200,000 in the future. The goal is to increase the Program’s staffing and outreach team and expand E&O activities to reach targeted audiences. The Program has focused on building strong positive relationships with retailers; establishing relationships with installers, building owners/managers, and recycling coordinators; and creating channels for reaching collection sites, Carpet Mills, nongovernmental organizations, and other stakeholders in the carpet recycling ecosystem.

The Advisory Committee, in recommendation February 2018 9.2, has requested that E&O funding not exceed 3.5% of the total budget and be focused on the following 4 primary areas. While commitments for 2018 have been solidified, effective with the 2019 E&O budget, this guideline requests and focus areas will be the foundation of E&O activities going forward.

- Installer outreach
- Retailer outreach
- Market development
- State and local governments

Education and outreach aimed at the general public (consumers at time of purchase) will have greater emphasis in the new Plan, as more opportunities for carpet collection, recycling, and reuse are developed, including new products with post-consumer recycled content. Consumers are primarily reached through education and outreach efforts aimed at key target audiences, providing resources and information for such groups to communicate with consumers at points of sale, disposal, or other action opportunities.

In prior years, E&O efforts were focused on immediate needs in retailer outreach and communication and pilot efforts with other audiences. The expanded budget in this Plan will allow for coordinated outreach to more audiences simultaneously, in more areas of the state. The additional budget also is needed to focus on market development and promotion, as the range of products, and the potential demand for these products, is cultivated.
The goals of the Program have various target audiences, as shown in Table 14 below, with their own audience-specific strategies noted below. Strategies to reach audiences will be modified based on market research during planning period and as conditions dictate.

While CARE has extensive databases for some audiences, such as retailers, other audiences require building a dataset from zero, such as general contractors and property managers on the collection side along with appropriate audiences for the post-consumer products as they are developed and brought to market. Research and contact development are an ongoing component of the Plan.

Table 14. Program Goals and Targeted Audiences for Education and Outreach

<table>
<thead>
<tr>
<th>Goal</th>
<th>Audience</th>
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<tbody>
<tr>
<td>Increase carpet recyclability</td>
<td>Carpet Mills, secondary manufacturers, consumers*</td>
</tr>
<tr>
<td>Increase post-consumer carpet reuse</td>
<td>Contractors, installers, NGOs, building owners, consumers*</td>
</tr>
<tr>
<td>Increase post-consumer carpet recycling (pounds of recycled output and recycling rate)</td>
<td>Collection sites, retailers, processors, local government, installers, building owners, consumers*</td>
</tr>
<tr>
<td>Increase markets for recycled products made with post-consumer carpet</td>
<td>Local government, builders, processors, secondary manufacturers, consumers*</td>
</tr>
<tr>
<td>Increase post-consumer carpet collection and collection convenience</td>
<td>Collection sites, retailers, collectors/sorters, installers, building owners, consumers*</td>
</tr>
</tbody>
</table>

*Consumers refers to anyone who purchases carpet for commercial or residential purposes.

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13 Goals listed in this table are paraphrased for simplicity. See Chapter C. Performance Goals & Activities for a detailed breakdown and statutory language for each performance goal.
Audience-Specific Education and Outreach

Audience-specific education and outreach will be targeted to each stakeholder group and may include such tactics as those listed below, but not limited to, the following examples presented in each category. Precise tactics may be modified over the course of the term to meet evolving program needs and respond to changing market conditions.

Retailers

- Continue retailer contacts through outreach team; prioritize areas where new collection sites allow the Program to “lead with good news.”
- Research and engage new retailers.
- Notify all retailers of new services and changes to the assessment.
- Refine compliance process; revisit non-compliant retailers.
- Leverage retailer outreach to identify and educate installers through collateral materials.
- Encourage Carpet Mill representatives to educate retailers; work with them to promote closed-loop infrastructure and general knowledge.
- Survey high-volume and big box retailers to understand waste flow and barriers to improvement.
- “Buy Recycled” and “Buy Recyclable” campaigns.

Installers

- Expand installer communication list through advertising in industry publications, in-person tabling at supply houses, service and media organizations, and conferences/trainings.
- Refine training materials and additional installer-focused collateral.
- Ensure that communications and collateral include selected other languages as appropriate and as resources allow. Up to as many as 6 languages statewide and a maximum of 3 languages in any region.
- Directly engage installers who hold regional contracts with big box stores (e.g., Lowe’s, Home Depot).
Outreach to contractors, building associations, builder exchanges, and local government planning and building departments.

Implement training in collaboration with union representatives for installers or apprentice programs as required under AB 1158.

Support grants and incentives to installers through collateral, videos, and other educational materials, etc.

**Local Government: Recycling Coordinators and Procurement Staff**

- Promote Buy Recycled procurement of products made with recycled carpet content.
- Inform about SABRC and other policies that support purchasing post-consumer carpet products with local government, joint powers authorities, and waste agencies.
- Promote adoption of Environmentally Preferable Purchasing (EPP) policies with state/local governments and businesses.
- Provide regular information/reminders to be included in Recycling Guides, newsletters, websites, and social media.
- Work with local governments to place information with haulers (e.g., bill inserts).
- Work with local governments to coordinate with waste agencies within their region, outreach to commercial businesses, coordinate with planning and building departments, and the like, as budget allows.
- Coordinate with DGS to support new requirements related to carpet procurement with minimum recycled content and removal of tear-out PCC, consistent with AB 1158.

**Collection Sites**

- Support current and added sites with signage, brochures, sample press releases, and the like.
- Work with local government and haulers to promote new and added sites to the public.
General Public and Nongovernmental Organizations (NGOs)

- Engage reuse centers, NGOs, and nonprofits through technical assistance to foster reuse.
- Research primary barriers to carpet recycling; focus group on messaging.
- Focus on areas with viable, convenient recycling opportunities first with communications plan (e.g., convenient collection sites).
- Provide and promote content from the Carpet and Rug Institute (CRI) on:
  - Proper cleaning of carpet to prolong life, mitigate environmental impact.
  - Carpet recycling and recyclability.
  - Buy Recycled purchase of products made with recycled carpet content.

Builders, Contractors, and Facilities Managers (new audience)

- Make contact (through trade associations and publications), establish partnerships, clarify their needs, and promote best practices on recycling, recyclability, and reuse.
- Identify mechanisms to engage commercial building owners, especially to promote commercial tile recycling and reuse, and as opportunities for commercial carpet recycling improve over time. May also include procurement promotion of recyclable and recycled-content products.
- Create/adapt and promote a guide similar to Carpet Recycling United Kingdom’s (CRUK) guidance on reuse and recycling of used carpets (www.wrap.org.uk/carpetguide).

Carpet Mills

In concert with Advisory committee recommendation February 2018 9.3, CARE has opened a dialog with mills to initiate pilot efforts to develop the proper formats dependent on mill size, understand timelines for events, and to outline objectives to better educate California retailers on carpet recycling.
These efforts will build on the existing retailer outreach program already in place.

- Work with Carpet Mill representatives to promote recyclable and recycled-carpet-content products through CARE’s web portal and other communications.
- Promote the carpet back-stamping initiative that is approaching completion by the carpet industry and how to take advantage of this effort as labelled PCC begins to appear in the recycling stream.

Cross-Audience Tactics and Ongoing Efforts

Cross-audience tactics and other ongoing efforts may include activities such as, but not limited to:

- Expand email list.
- Develop audience-specific email communications in addition to monthly e-blasts.
- Monitor and respond to questions, comments, and concerns from multiple sources (social media, email, etc.).
- Fulfill collateral material requests from various stakeholders (retailers, local government, collection sites, etc.)
- Modify and add to web content: includes Procurement Portal; CARE website redesign, and/or creation of separate, consumer-facing site in 2017–2018.
- Find/promote or create web tool to encourage/facilitate reuse.
- Increase social media efforts.
- Webinars.
- Workshops.
- Conference tabling and presentations.
- Earned media and placements of op-eds.
- Selective advertising in industry publications and on search engines.
Evaluation Metrics

Table 15 provides a list of marketing metrics that may be used in evaluating the effectiveness of the Program’s education and outreach activities. These metrics are in addition to the operational data already collected and analyzed under the subsidy portion of the Plan. Surveys and other tools will be used to evaluate baseline uptake of a desired behavior (e.g. increased use of drop-off sites) and then compared to surveys taken following an E&O campaign to evaluate effectiveness. The program will also take steps to compare E&O activities to operational data, such as outreach to installers and changes to gross collection levels from a nearby drop-off site, as available and subject to limitations listed above. An example of how this analysis may be performed is provided above under the E&O Regional Strategy.

These metrics may be refined with time, based on feedback and efficacy.

Table 15. Education and Outreach Impact Metrics

<table>
<thead>
<tr>
<th>Tactic</th>
<th>Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Reach</strong></td>
<td></td>
</tr>
<tr>
<td>Industry publication advertising</td>
<td>Numbers reached</td>
</tr>
<tr>
<td></td>
<td>Uptake of collateral requests</td>
</tr>
<tr>
<td></td>
<td>Content consumption</td>
</tr>
<tr>
<td>Digital ads</td>
<td>Impressions (numbers reached)</td>
</tr>
<tr>
<td></td>
<td>Click-through rate (CTR)</td>
</tr>
<tr>
<td>Environmental graphics (billboards)</td>
<td>Impressions</td>
</tr>
<tr>
<td>Monthly E-News</td>
<td>List growth</td>
</tr>
<tr>
<td></td>
<td>Open rate</td>
</tr>
<tr>
<td></td>
<td>Click through rate (CTR)</td>
</tr>
<tr>
<td></td>
<td>Content consumption</td>
</tr>
<tr>
<td>CARE website &amp; California Program webpages</td>
<td>Traffic (Google Analytics)</td>
</tr>
<tr>
<td></td>
<td>Pages visited</td>
</tr>
<tr>
<td></td>
<td>Content added and consumed</td>
</tr>
<tr>
<td></td>
<td>Uptake of call to action</td>
</tr>
<tr>
<td>Tactic</td>
<td>Metric</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Partner outreach (Carpet Mills, processors, sorters, etc.) | Number of contacts  
Positive feedback  
Uptake of call to action (sign-up for email alerts, etc.) |
| Events/conference presentations            | Number of events  
Reach (number of participants, etc.)  
Follow-ups |
| Press releases/earned media                | Number sent  
Number of placements  
Feedback |
| Social media, including video creation and distribution | Number of posts and views  
Reach  
Increase in followers, amplification (shares) |
| Webinars                                   | Number of events  
Number of participants  
Content consumed |
| Surveys/stakeholder workshops              | Number of groups queried / number of responses  
Number of workshop attendees  
Feedback |
| Retailers                                  | Number of copies requested/distributed  
Stakeholder feedback  
Number and length of website visits |
| Print collateral (brochures, window clings, FAQs, signage), including multilingual. | Uptake of call to action (brochure requests, webpage visits, etc.) |
| In-person outreach                         | Number of businesses reached  
Increased awareness of CARE and the California Carpet Stewardship Program  
Increased compliance with labeling and other requirements |
<table>
<thead>
<tr>
<th>Tactic</th>
<th>Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Local Government</strong></td>
<td></td>
</tr>
<tr>
<td>In-person outreach</td>
<td>Number of recycling coordinators / other government staff reached</td>
</tr>
<tr>
<td></td>
<td>Collateral requested and posted</td>
</tr>
<tr>
<td></td>
<td>Increase/uptake of procurement policies regarding recycled carpet content</td>
</tr>
<tr>
<td></td>
<td>Uptake and amplification of provided content (e.g., posting to local government websites, social media and newsletters)</td>
</tr>
<tr>
<td>Installers</td>
<td></td>
</tr>
<tr>
<td>Curriculum</td>
<td>Number of installers reached</td>
</tr>
<tr>
<td></td>
<td>Feedback</td>
</tr>
<tr>
<td><strong>Collection Sites / Rural County Program</strong></td>
<td></td>
</tr>
<tr>
<td>In-person outreach</td>
<td>Number of contacts</td>
</tr>
<tr>
<td></td>
<td>Collateral requests</td>
</tr>
<tr>
<td>Consumers/Public</td>
<td></td>
</tr>
<tr>
<td>Website</td>
<td>Traffic</td>
</tr>
<tr>
<td></td>
<td>Number of visits to collector map</td>
</tr>
<tr>
<td></td>
<td>Number of visits to consumer page</td>
</tr>
<tr>
<td>Video</td>
<td>Number of views</td>
</tr>
<tr>
<td></td>
<td>Number of shares</td>
</tr>
<tr>
<td>Awareness</td>
<td>Collateral requests from retailers and recycling coordinators</td>
</tr>
<tr>
<td>Processors</td>
<td></td>
</tr>
<tr>
<td>Survey</td>
<td>Number of responses</td>
</tr>
<tr>
<td></td>
<td>Feedback</td>
</tr>
</tbody>
</table>
I. Program Performance Measurement

The annual reports will include measurements of progress toward the eight primary performance goals, as described in Chapter C. Performance Goals and Activities. Additionally, annual reports will include other metrics, which also serve as indicators of the Program’s progress. Metrics are listed below according to which, if any, performance goal they relate to and how they are calculated or are used to calculate other metrics.

Much of the Program performance data draws on regular reporting to the Program or its independent surveys from Program participants, including Carpet Mills, collector/sorters, processors, and manufacturers. The Program and its participants will maintain records in accordance with the regulatory requirements, including making records accessible to CARE and CalRecycle upon request to determine compliance. Requirements related to record-keeping and retention are included in agreements with all Program participants.

8 Primary Performance Goals

1. Increase the recyclability of carpets.
2. Expand and Incentivize market growth of secondary products made from post-consumer carpets.
3. Increase the reuse of post-consumer carpet.
4. Increase the recycling of post-consumer carpets.
5. Reduce the disposal of post-consumer carpet from California landfills.
6. Increase the collection convenience for the recycling of post-consumer carpet and increase the collection of post-consumer carpet for recycling.
7. Increase processor capacity, including the capacity in California.
### I. PROGRAM PERFORMANCE MEASUREMENT

<table>
<thead>
<tr>
<th>Metric</th>
<th>Related Performance Goal</th>
<th>Notes on Calculations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpet Sold in California (yd²)</td>
<td>4. Increase the recycling of post-consumer carpets. 5. Reduce the disposal of post-consumer carpet from landfills.</td>
<td>Sales in Discards Formula</td>
</tr>
</tbody>
</table>
| Post-Consumer Carpet (PCC) Discards (lbs.) | 4. Increase the recycling of post-consumer carpets. 5. Reduce the disposal of post-consumer carpet from landfills. | \( ((\text{Sales} \times R) \times P) + D + DS \)  
Where:  
Sales= Sales in square yards (yd²) in California  
R=Replacement rate  
P = average weight of carpet  
D = % of carpet from demolition projects that is not replaced  
DS = % of carpet that is eliminated (deselected) in a remodel and not replaced by carpet |
| Gross Collection (GC) (lbs.)     | 1. Increase the recyclability of carpets. 5. Reduce the disposal of post-consumer carpet from landfills. | Pounds as reported by the Collector/Sorters |
| Yield (%)                       | 1. Increase the recyclability of carpets.                                                 | \( \frac{\text{Recycled Output}}{\text{Gross Collections}} \) |
| Recycling Rate (%)              | 4. Increase the recycling of post-consumer carpets.                                       | \( \frac{\text{Recycled Output}}{\text{Discards}} \) |
## I. PROGRAM PERFORMANCE MEASUREMENT

<table>
<thead>
<tr>
<th>Metric</th>
<th>Related Performance Goal</th>
<th>Notes on Calculations</th>
</tr>
</thead>
</table>
| Recycled Output (lbs.)     | 4. Increase the recycling of post-consumer carpets.  
3. Increase the reuse of post-consumer carpets. | $\text{Reuse} + \text{Type 1} + \text{Type 2} + \text{Calcium Carbonate}$ |
| Reuse (lbs.)               | 3. Increase the reuse of post-consumer carpet.                            | $\text{Broadloom Reuse} + \text{Tile Reuse}$               |
| Disposal                   | 5. Reduce the disposal of post-consumer carpet.                           | $\text{Discards} - \text{Recycled Output}$                 |
| Funds Remitted (Revenue) ($) |                                                                            | Assessment funds received quarterly from the Carpet Mills   |
| Implementation Cost ($)    |                                                                            | Sum of total Program expenses                               |
| Greenhouse Gas Emission Reductions (GHGs) (MTCO$_2$e) |                                                              | Calculated using EPA WARM model                             |
| California Green Job Creation |                                                                            | Reported Period Job Gains                                    |
| Net California Jobs        |                                                                            | Beginning Jobs - Jobs Lost + Jobs Gained, as reported       |
| Total California Jobs      |                                                                            | Active jobs as reported at the end of period                |
| Capacity                   | 7. Increase processor capacity, including the capacity in California.      | Study to be completed by mid-2019                           |
## I. PROGRAM PERFORMANCE MEASUREMENT

<table>
<thead>
<tr>
<th>Metric</th>
<th>Related Performance Goal</th>
<th>Notes on Calculations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of recycled-carpet-content products in marketplace</td>
<td>2. Incentivize the market growth of secondary products made from post-consumer carpets.</td>
<td>Obtained through annual manufacturer surveys</td>
</tr>
<tr>
<td>Number of California Program drop-off locations</td>
<td>6. Provide for reasonably convenient collection opportunities in each County.</td>
<td>Count of CARE-supported drop-off sites and counties served</td>
</tr>
<tr>
<td>Number of private collection sites</td>
<td>6. Provide for reasonably convenient collection opportunities in each County.</td>
<td>Obtained through annual collector/sorter surveys</td>
</tr>
<tr>
<td>Reasonably Convenient Collection</td>
<td>6. Provide for reasonably convenient collection opportunities in each County.</td>
<td>Metric to be informed by 2018 Convenience Study</td>
</tr>
<tr>
<td>Source Reduction</td>
<td></td>
<td>Obtained through annual mill survey and CARE coordination with CRI</td>
</tr>
<tr>
<td>Mill Investment Closed-Loop Recycling &amp; Recyclability</td>
<td>1. Increase the recyclability of carpets.</td>
<td>Obtained through annual mill survey</td>
</tr>
</tbody>
</table>
Judging success of CARE’s initiatives requires consideration of many factors. While a line graph clearly provides temporal trends, it often does not tell the full story. In addition to quantitative information, other factors that will be used to judge success may include, but are not limited to the following:

- Time since implementation (ample time for industry and market response must be available).
- Trending data including normal fluctuations that are seasonally driven as well as macroscopic economic factors.
- Feedback from the Advisory Committee.
- Feedback from frontline collectors, processors and manufacturers.
- Feedback from other stakeholders such as retailers, installers, building owners and others.
- Additional analysis using models that have been developed and are evolving.
- General stakeholder feedback from workshops, surveys, outreach, etc.

Performance will be monitored monthly and quarterly and reported annually as well as via interim voluntary reports, as is currently the case. Using these data, CARE will complete a performance assessment, how is the Program delivering against goals and metrics, which will include a financial impact assessment using available CARE models (this currently includes the CARE financial model, economic model, and conversion cost model, although refinements or additional tools may be developed over the course of the Plan) to consider potential modifications to subsidy components or payout levels (adding, changing, eliminating subsidies) and to evaluate the potential cash flow and fund balance implications of such changes throughout the duration of the Plan. Potential implications might include, but not limited to: financial impact on cash flow, RO, assessment change requirements, movement of harder to recycle components, etc. Progress toward goals may be multifaceted and non-linear. In addition, as some goals may take longer to progress than others, CARE will work to achieve upward movement in the eight primary goal areas as outlined in this Plan.

Performance assessments will be completed on an as needed basis, generally annually, although may be conducted more or less frequently in response to a particular market event, such as: a sudden drop or increase in
RO; identification of a particular PCC component with limited or accelerated movement (such as tile or PC4); sudden increase or decrease in processing or secondary manufacturing capacity; rapid change in gross collection or inventory levels; changes in reuse or recyclability trends; changes in sales trends; major macroeconomic shifts like drops in the price of oil or global recycling commodities markets or reduced domestic or international demand; etc. Once an analysis is complete, CARE will generally follow the following process for decision-making:

1. Recommendations will be reviewed with the SPC and once preliminary decisions are reached, CARE will convene the Advisory Committee (via survey, web or in person meeting) to review recommendations and seek Advisory Committee feedback and perspective.

2. CARE will next consult with CalRecycle to determine any steps required for implementation.

3. Finally, once all evaluations have been taken into consideration, the SPC will review recommendations with the SFOC for final approval.

The precise order of this process may be modified based on the unique circumstances of the decision, such as need for CalRecycle or legal input. CARE is committed to considering input from various stakeholders including the Advisory Committee and CalRecycle, although final decision-making authority will remain in the hands of the SPC and SFOC. Following such a decision, CARE will prepare a notice summarizing the change, stakeholder input received in response to the proposed change, and the major reasons/rationale for adopting such a change. In some unusual instances, it may be necessary for CARE to enact changes within a short timeline that does not allow for stakeholder input. Should this be deemed necessary, CARE will provide notice of the change as soon as is feasible following the change and request comments from stakeholders or the Advisory Committee. As also required by statute, any recommendations coming from Advisory Committee which are not adopted will receive a written response/justification from CARE.

Under this Plan, CARE has agreed to expand the composition of the SPC to include one additional California-based non-mill member to the committee, increasing the committee size to nine members, with six members representing individual mills, one member representing the mill industry group (Carpet & Rug Institute) and two members representing California-based non-mills. Additionally, two of the SPC’s 4 formal quarterly review meetings each year will be held in California.
J. Stakeholder Consultation

To develop this updated Plan, CARE conducted extensive consultation with affected stakeholders and considered the existing infrastructure for carpet recycling and reuse. Consulted stakeholders include Carpet Mills, collector/sorters, processors, Tier 2 manufacturers, other stewardship organizations, service providers, state and local governments, nongovernmental organizations, waste agencies, disposal sites, haulers, installers, demolition or other contractors, recyclers, retailers and wholesalers, and consumers. This chapter summarizes recent and ongoing stakeholder consultation activities.

Key stakeholder consultation activities, described further below, include the following:

- Advisory Committee
- Stakeholder workshops
- Online feedback forms through website
- Online feedback through CalRecycle public postings
- Other stakeholder outreach and communications as determined to be useful

Advisory Committee (New under AB 1158)

The Advisory Committee members are specified under statute in AB 1158 and were appointed by the CalRecycle Director in December 2017. The Advisory Committee formed under AB 1158 is anticipated to have a broad representation across our many stakeholder groups including carpet mills, environment, waste, local government, retailers, installers, carpet collectors, recyclers and secondary product manufacturers, or others. At least one mill representative and one member from either Northern or Southern California joint apprenticeship training committees are named in the law. In addition, legislation requires appointment of a representative by both the Speaker of the Assembly and the Senate Committee on Rules.
CARE is prepared to work with CalRecycle and the new Advisory Committee to establish an operational protocol and logistics to establish meeting frequency, leadership model, rules of engagement, etc. These protocols will be established as soon as is practical in early 2018 and after the appointment and start-up of the Committee.

In addition to periodic Committee meetings, the Program will cover the costs of bringing several members of CalRecycle and the Advisory Committee to Georgia on an annual basis to learn more about carpet manufacturing and recycling by seeing the process first-hand. For 2018, the budget is planned to cover travel expenses for 3 CalRecycle staff members and 4 Committee members. Representatives may rotate on an annual basis over the course of the Plan. The Plan will cover the operational costs of the new Advisory Committee once a budget is finalized. As has been the practice in prior Plans, the Program covers the cost of one CalRecycle representative to attend and report at the annual CARE Conference and concurrent Board meeting.

Process for Incorporating Advisory Committee Input

CARE will provide Draft Plans to the new Advisory Committee prior to submission to CalRecycle. CARE will evaluate all Committee input for consideration consistent with maintaining a financially stable and viable program and provide timely feedback to the Committee. The SPC/SFOC will have final decision-making authority. Per AB 1158, CARE will incorporate recommendations to the extent feasible or provide the Advisory Committee with a written explanation for any recommendations not adopted, including details regarding plans to incorporate such recommendations into a subsequent plan, amendments to the Plan or subsequent annual report.

An advanced draft copy of this Plan was submitted to the newly formed Advisory Committee on July 13, 2018. The Committee met several times during the month of January and February 2018, and CARE participated in these meetings as an observer and to answer clarifying questions posed by the Committee. On February 12, 2018, the Committee submitted to CARE 21 recommendations. A summary of Advisory Committee recommendations and CARE responses to these recommendations is presented in Attachment 5.
California Council on Carpet Recycling

Role of the Council

In October 2015, CalRecycle approved the creation of the California Council on Carpet Recycling (Council) to provide insights, feedback, and suggestions to inform the California Carpet Stewardship Program.

The Council was scheduled to meet periodically over the course of the 5-year Plan. However, with the passage of AB 1158 and the statutory formation of a new Advisory Committee, the current Council was disbanded at the close of 2017.

Council Recommendations for Current Plan

From February through June 2016, Council members met in Sacramento for four all-day interactive workshops to make suggestions and help prioritize actions for consideration to be included in the updated California Carpet Stewardship Plan for 2018–2022. CalRecycle staff were invited to attend these meetings as observers.

The SPC met multiple times between March and September 2016. Council ideas were cataloged and discussed and considered how they fit into the 2017 Plan. In particular, the July 6, 2016, meeting included a detailed review of all Council ideas and suggestions. The Council reconvened in 2017 in a series of webinars and in-person meetings, through which members reviewed the summary matrix of 2016 priorities, developed 9 primary recommendations for the new 2018–2022 Plan and were provided with an updated matrix to reflect CARE’s interim decision-making considerations prior to finalizing this Plan (see Attachments 13, 14, and 15 for the Council’s recommendations and priorities, along with SPC’s responses).

CARE distilled more than 400 ideas from the Council into approximately 67 ideas organized into six statutory focus areas listed below. Each idea and how it might be implemented was discussed in detail during the July 6, 2016 meeting. With a couple exceptions, the SPC determined there was considerable merit to many of the ideas and elected to build a Plan that was flexible enough to allow implementation of any of the 67 ideas over the life of the Plan consistent with market feedback and economic consideration. The SPC recognized it could not implement all ideas, nor could many be implemented concurrently due to financial and organizational constraints.
This was a major consideration in developing a Plan with as much flexibility as possible. Overall, the synthesized Council priorities ranked in 2016 and the nine primary Council recommendations identified in 2017, have formed the foundation of the structure and key approaches including in this Plan. CARE considers all this work to be fully consistent with the requirements of AB 1158.

Eight Statutory Focus Areas:

1. Reuse
2. Recyclability
3. Collection
4. Recycled Output
5. Reduction in Disposal
6. Market/Product Development
7. Capacity, including within the State of California
8. 24% recycling rate by January 1, 2020

The following is a summary of some of the original 2016 Council ideas which have been budgeted for implementation in the current Plan. These ideas are in addition to the 9 specific recommendations described above. In many cases, several of these ideas are already underway including:

- Hiring of a fulltime California Program Director (hired January 1, 2018)
- Conduct a “How to Increase Reuse” study
- Increase collection sites (building to 58 sites; additional sites beyond this threshold to be informed by convenience study)
- Increase staffing to expand E&O delivery to target audiences (increased funding beginning in 2017)
- Increase outreach to installers (launched in 2017)
- Increase operations and customer support services support (increased funding beginning in 2018)
- Build partnerships with other stewardship programs (strategic approach underway)
- Conduct feasibility study to define “reasonably convenient collection” (initiated; to be completed by end of 2018)
- Promote SABRC procurement and adoption of EPP policies (increased funding beginning in 2018)
- Collaborate with GoBiz, RMDZ, DGS, and CalRecycle to leverage resources, grants and support California facilities (increased funding beginning in 2018)

**Stakeholder Workshops**

Beginning in 2014, CARE initiated annual workshops to communicate with stakeholders and seek input on Program design and implementation. CARE also consulted with stakeholders through 2016 Stakeholder Workshops, specifically to solicit input on the new 5-year Plan. Two workshops were held in 2016 in Burbank on March 8 and Sacramento on March 10. More than 1,000 CARE contacts were invited to participate. The five-hour workshops included presentations by CARE Executive Director Robert Peoples, California Program Manager Brennen Jensen, and Russ DeLozier, Director of Environmental Innovation at J&J Flooring (now Engineered Floors). The afternoon sessions featured a facilitated exercise (facilitated by Gigantic Idea Studios) to solicit ideas and input for the updated Plan. The workshops drew more than 75 attendees from various stakeholder groups including processors, manufacturers of recycled-content products, retailers, collectors, local government representatives, transfer stations, and environmental nongovernmental organizations. CalRecycle was invited to attend and participate in these workshops.

While the Advisory Committee will continue to serve as a primary mechanism for stakeholder input, CARE plans to continue to hold these stakeholder workshops on periodic basis to share new Program information and to solicit ongoing feedback on Program accomplishments and needs. Workshops will be scheduled on an as needed basis and may target specific or general stakeholder groups based on the needs of the Program over time.

**Online Feedback Forms**

CARE provides an online form on its website where members of the public and other interested stakeholders can provide comments on the Plan and Program. CARE promotes this form through its regular “e-blast” communications.
Conferences and Other Stakeholder Outreach

CARE periodically presents at conferences and other stakeholder gatherings to provide information about the Program’s activities and solicit stakeholder feedback, such as California Resource Recovery Association (CRRA) annual conference, CalRecycle’s Recycling Market Development Zone (RMDZ) Zone Works conference, Rural County Representatives of California (RCRC) or local groups like the Redwood Empire Flooring Association or County Integrated Waste Management Task Force.

Each spring, CARE hosts a national conference on carpet recycling and reuse. As in past years, the Program will continue to fund at least one representative from CalRecycle to attend the annual meeting and provide an update to the Board and meeting attendees.

In addition, the Program conducts outreach efforts on an ongoing basis to the below groups, as described in Chapter H. Education and Outreach (E&O).

- Retailers
- Local governments
- Installers
- Drop-off sites
- Commercial building owners (new)

Specialized Workshop Series

CARE may develop and conduct specialized workshops, webinar series, or other stakeholder engagement to explore particular Program elements over the course of the Plan. These may be incorporated into existing stakeholder workshops, Advisory Committee meetings, conference presentations, or be conducted as separate standalone events, as resources allow and communication needs dictate. Subject to available funding, CARE may develop potential workshop series on such topics as, but not limited to:

- Convenient collection.
- Increasing reuse.
- Improving recyclability for Carpet Mills.
• Buy Recycled, to support procurement of recycled carpet content.
• Designing for recyclability, upcycling, closed-loop systems.
• Role of rebates for increasing consumer purchasing.
• Marketing recycled-content products to state agencies, commercial businesses or other target audiences.
K. Audits

The Program’s annual reports will include audits of the financial statements of CARE and the California Carpet Stewardship Plan. An independent certified public accounting firm will conduct the audits.

The audit report will include:

- Square yardage carpet shipped into California for the reporting period (in aggregate).
- Assessments collected (in aggregate).
- List of non-compliant Carpet Mills who are registrants with the Plan.
- List of non-compliant retailers, as reported to CARE by Carpet Mills who are registrants with the California Carpet Stewardship Plan.
- Results of Agreed Upon Procedures (AUPs) conducted on the Carpet Mills and fund recipients during the reporting period.

The audit report on the California Carpet Stewardship Program will explicitly report on the Carpet Mill or stewardship financial statements as they relate to the Program and its compliance with Public Resource Code section 42970 and Title 14, Article 1, of the California Code of Regulations.

CARE will share with the accounting firm confidential information on sales and assessments on a quarterly basis and in aggregate form to protect the confidentiality of individual Carpet Mills. For all audits, CARE will direct the Certified Public Accounting firm to do the following:

- Perform certain Agreed Upon Procedures on the Carpet Mills and recipients of the carpet assessment funding to ensure compliance with the guidelines in AB 2398.
- Conduct audits in accordance with Generally Accepted Accounting Principles (GAAP) and Generally Accepted Government Audit Standards (GAGAS).
L. Environmental Information

CalRecycle’s 2012 review of the initial California Carpet Stewardship Plan found the following:

Based on the available evidence in the record and the environmental analysis presented in this document, there is no substantial evidence that the proposed project would have a significant effect on the environment. Therefore, it is proposed that a Negative Declaration be adopted in accordance with the CEQA Guidelines. (emphasis added)

We do not anticipate any changes since that time that would result in adverse environmental effects. If CalRecycle requires additional environmental information, the Program can provide materials upon request.
Attachments

The Plan includes the following attachments.

Attachment 1. Definitions
Attachment 2. CARE Leadership
Attachment 3. California Carpet Stewardship Plan Mill Participants
Attachment 4. Budget Narrative
Attachment 5. CARE Response to Advisory Committee Recommendations
Attachment 6. California Carpet Recycling Collection Site Maps
Attachment 7. Summary of Subsidies and Pilots
Attachment 8. Description of Subsidy Flow and Stacking
Attachment 9. Description of Models (updated)
Attachment 10. Bates White Report and Responses
Attachment 11. Education and Outreach Materials
Attachment 12. Agreed Upon Procedures
Attachment 13. Monthly Reporting Forms—Examples
Attachment 14. SPC Review Slides on 2016/2017 Council Ideas
Attachment 16. SPC Response to Council’s 2017 Recommendations
Attachment 1. Definitions

Key terms used in this Plan are defined as follows.

**AUP** (Agreed Upon Procedures): A prescribed procedure executed by an external accounting firm or contractor to examine the records of Program participants to verify compliance and prevent fraud.

**Calcium Carbonate**: See Post-Consumer Carpet Calcium Carbonate (PC4) below.

**Capacity**: Theoretical maximum volume of carpet discards able to be processed by participating processors in a given year, based on self-reported estimates and/or permitted capacity figures. In line with CalRecycle FacIT definitions, *Capacity* is generally presented in tons per year (TPY). Both pounds per year and TPY are presented in this report.

**Carpet**: A manufactured article that is used in commercial or residential flooring applications as a decorative or functional feature and that is primarily constructed of a top visible surface of synthetic or natural face fibers or yarns or tufts attached to a backing system derived from synthetic or natural materials. *Carpet* includes, but is not limited to, a commercial or a residential broadloom carpet or modular carpet tiles. *Carpet* does not include a rug, pad, cushion, or underlayment used in conjunction with, or separately from, a carpet.

**Carpet America Recovery Effort (CARE)**: A nationwide, 501(c)(3) non-profit organization whose focus is on post-consumer carpet stewardship.

**Carpet as Alternative Fuel (CAAF)**: Fuel that has been produced from source-separated and sorted post-consumer carpet and processed, including 1) extraction of components for recycling if at all possible and 2) size reduction, shredding, and/or blending with coal fines, etc. *CAAF* is not a type of recycling or reduction in disposal for purposes of this Program. *CAAF* is an alternative fuel source to other fuel sources such as coal, natural gas, and fuel oil.

**Carpet-Derived Aggregate (CDA)**: A potential utilization of recycled output as an alternative to heavy rock and soil for use in geotextiles, road construction, or similar civil engineering application; similar to *Tire-Derived Aggregate (TDA)*. Examples might include lightweight wall backfill, vibration attenuation, embankment repair, etc.
**Carpet Industry:** The universe of participants involved in the production of carpet, including Carpet Mills, fiber manufacturers, material suppliers, etc. It includes but is not limited to members of the Carpet and Rug Institute (CRI).

**Carpet Mill:** A primary producer of carpet, carpet tiles, or related products covered under the Plan; also referred to as a Carpet Manufacturer.

**Cement Kiln:** Cement production facility that may use CAAF as a source of energy and/or as an additive for cement production.

**Collected:** Gross collected pounds of California PCC collected (total includes material that may eventually be sent to landfill). Also referred to as Gross Collected.

**Collection:** Any method of consolidating and temporarily storing recovered commercial and/or residential carpet.

**Collector/Sorter (CSE):** A business that provides carpet recycling collection services for retailers, disposal sites or other sites. Collector/sorters sort received PCC by material type for third-party reuse, or wholesale to Tier 1 processors for recycling. Collector/sorters do not convert material into recycled output. CSE refers to a collector/sorter entrepreneur.

**Demolition:** Represents the teardown of a building (one-time carpet removal). There is no estimate of percentage of flooring covered by carpet.

**Discards:** Carpet that has completed its lifecycle as a consumer item or is no longer used for its manufactured purpose. Also referred to as post-consumer carpet materials.

**Disposal:** The management of solid waste through landfill disposal, transformation, or engineered municipal solid waste (EMSW) conversion, at a permitted solid waste facility (per PRC 40192). Under this Plan total pounds of post-consumer carpet sent to landfill, CAAF, kiln, WTE, and incineration are counted as disposal.

**Disposal Facility:** Facilities that are licensed and permitted to provide final disposal for the specific wastes they accept, including waste-to-energy, incineration, and landfill.

**Diversion:** “Diversion” or “divert” means activities which reduce or eliminate the amount of solid waste disposed at landfills in a manner consistent with the state’s hierarchy for waste management pursuant to Section 40051. (Ref: 14 CCR §18941)

**Diversion (Net):** See Net Diversion.
Diversion (Reported): See Reported Diversion.

DSC: Differential Scanning Calorimeter. Analytical testing device for identification of polymer/fiber type based on differential melting points.

Education/Communication Costs: Refers to expenses incurred in support of Marketing, Education and Outreach (ME&O) efforts conducted under the Plan. Includes the cost of market development professional services, research and promotion, on-the-ground education and outreach support, communications, market research, collateral and materials development, and related expenses.

End-of-life (EOL) Costs: Program cost associated with the management of carpet discards from the point when a product is discarded by the consumer or the end of the useful life of the product, whichever occurs first. Costs may include subsidies, incentives or other expenditures related to reuse, recycling, incineration for energy recovery, landfilling, and other forms of carpet disposition in line with Program goals. It also includes storage and transportation for the rural county program.

Energy recovery: Burning carpet in a kiln or waste-to-energy facility or as carpet as alternative fuel (CAAF) to replace other fuels such as coal, natural gas, or fuel oil.

Entrepreneur: For the purposes of this report, an individual or privately held company that actively, collects, sorts, processes, or manufactures products made from post-consumer carpet materials. It does not refer to a carpet manufacturer.

ESJPA: Environmental Services Joint Power Authority.

FacIT: Facility Information Toolbox; a tool developed by CalRecycle to track statewide activities and total capacity, current throughout, and available capacity for each activity on an annual basis.

Filler: Materials such as calcium carbonate, etc., used in the production of carpet backing.

Governance Costs: Includes costs charged by CalRecycle for regulatory oversight of the Program; it is limited to 5% of total Program implementation costs.

Gross Collection (GC): Estimated pounds of PCC removed from waste stream for reuse, recycle, CAAF, kiln, or WTE, as reported to CARE by Collector/Sorters, prior to processing. This also includes unrecyclable PCC.
or carpet processing waste that may eventually be sent to landfill. The terms *Recovered* and *Collected* were previously used to describe *Gross Collected*.

**Gross Collection Conversion Rate**: The ratio of gross collections converted into *recycled output* (RO), expressed as a percentage of gross collections; also referred to as *Yield*.

**Implementation Costs**: Includes total expenses associated with Program implementation, as the sum of EOL subsidies (incentives) costs and administration costs.

**Incineration**: Complete burning of material to ashes, with no energy recovery, to reduce waste volume.

**In-ground Applications** (subject to testing protocols): Placing PCC and/or byproducts of carpet at or below the surface of the earth. This application of using PCC must consist of transforming PCC into a useful product, must meet all local government laws and codes, and must be approved by the CARE SPC Definitions Sub Committee. Examples include:

- PC4 when spread or mixed into ground as a soil amendment.
- PC4 in roadbed stabilization.
- Fiber in equestrian arenas, farms, race tracks, etc.
- Fiber from processed PCC used for sediment filtration, water filtration, roadbeds, etc.
- 100% wool carpet or wool fiber (no blends) as soil nutrient or weed control.

**Input**: The post-consumer carpet that is collected, sorted, and readied for processing.

**Landfilling**: Landfilling includes the placement of post-consumer carpet and/or the residuals from a post-consumer carpet management method into a landfill disposal facility.

**Manufacturer**: A manufacturer of secondary products made with post-consumer carpet content. Manufacturers receive finished (Type 1) recycled output from processors and utilize this material in the production of finished secondary products. At this time, manufacturers are only eligible for subsidy payments if they use non-nylon Type 1 output. CARE reserves the option to extend the manufacturer subsidy system to nylon-based Type 1 output if market dynamics justify. In this report, secondary manufacturers are referred to as manufacturers.
Marketing, Education & Outreach (ME&O): Communications, education, and/or outreach activities related to Program promotion, technical assistance, or stakeholder support to increase Program adoption, impact, and/or effectiveness.

Memorandum of Understanding (MOU) for Carpet Stewardship: An agreement entered into by multiple stakeholders, including carpet industry, entrepreneurs, government entities and nongovernmental organizations.

Net Diversion: Estimated total PCC removed from California landfills for reuse, recycle, CAAF, kiln, WTE, or export. It is calculated as the difference of gross collected pounds minus PCC and process waste pounds that ultimately goes to landfill from processors or collectors.

Nongovernmental Entities: Nongovernmental entities or organizations (NGOs).

PC4: Post-consumer carpet calcium carbonate backing. PC4 must be derived from a Type 1 processing output.

Plasma: An extreme thermal process using plasma which converts organic matter into a syngas (synthesis gas), which is primarily made up of hydrogen and carbon monoxide. A plasma torch powered by an electric arc is used to ionize gas and catalyze organic matter into syngas, with slag remaining as a byproduct. It is used commercially as a form of waste treatment and has been tested for the gasification of municipal solid waste, biomass, industrial waste, hazardous waste, and solid hydrocarbons, such as coal, oil sands, petcoke, and oil shale.

Post-Consumer Carpet Calcium Carbonate (PC4) (subject to testing protocols): The residual, non-fiber content that is collected by a Type 1 processor when a carpet is separated. This is typically in the form of a powder, which is associated with the “ash content” when an ash test is performed. The substance can be a high PC4 product or a mix that could include coal fly ash, cured adhesives, and some residual fibers. Because of the carpet manufacturing processes, PC4 in PCC processing will always have residual latex or other backing binder.

Post-Consumer Carpet (PCC) Materials: Carpet that has completed its lifecycle as a consumer item or is no longer used for its manufactured purpose. Also referred to as discards.

Post-Industrial/Pre-Consumer Carpet Material: Carpet materials generated in manufacturing and conversion processes, including, but not limited to, manufacturing scrap and trimmings/cuttings.
**Processing**: Preparing carpet material for reuse, recycling, CAAF, WTE, or disposal.

**Processor**: Qualified recipient participating under the Plan that uses industry-recognized processes such as shredding, grinding, shearing, depolymerization, etc., to convert discarded whole carpet into finished (Type 1 or Type 2) recycled output, ready to be utilized as an input material for secondary products. In this report, processors are referred to as Tier 1 processors. Some processors may also function as collector/sorter entrepreneurs or manufacturers.

**Program Administrative Costs**: Includes all non-subsidy Program expenses, including accounting, legal services, CARE facilities and operational expenses, staffing/contractor expenses, professional services, and marketing, education, and outreach activities. Program administration also includes service payments (governance costs) to CalRecycle for Program oversight.

**Pyrolysis**: A thermochemical decomposition of organic material in the absence of oxygen (or any halogen). It involves the simultaneous change of chemical composition and physical phase and is irreversible. Pyrolysis is a type of thermolysis and is most commonly observed in organic materials.

**RCRC**: Rural County Representatives of California, a 35-member county service organization that champions policies on behalf of California’s rural counties.

**Recovered**: Gross collected pounds of California PCC collected (this includes unrecyclable PCC carpet or carpet processing waste that may eventually be sent to landfill). Also referred to as Gross Collection.

**Recycled Content**: Also known as recovered material content, it is the percentage of material, by weight, a product is made from that has been recovered from consumers in the municipal solid waste stream (post-consumer recycled content), plus any industrial materials salvaged for reuse (pre-consumer/post-industrial content).

- **Post-Consumer Recycled Carpet Content (PCRCC)**: The amount or percent of carpet, by weight, that is no longer used for or has served its manufactured purpose, that is incorporated into the manufacturing process of the same or a different product.
- **Post-Industrial/Pre-Consumer Recycled Carpet Content**: The amount or percent of carpet material, by weight, generated by manufacturers or product converters, such as trimming, overruns, and
products returned to the *Carpet Mills* that are incorporated back into the manufacturing process of the same or a different product.

**Recycled Output (RO):** The sum of reuse or the material that results from the industry-recognized processing (shredding, shearing, hammer-milling, depolymerization, etc.) of PCC from a processor. Examples of output include fiber, shredded carpet tile, depolymerized chemical components, carpet filler, PC4, etc. The Program currently distinguishes between two types of material:

- **Type 1 Recycled Output Material:** Higher value recycled output that with the most benefits to manufacturers of finished products and which generally takes more processing to achieve. Type 1 recycling materials must meet requirements set by the CARE SFOC. This includes maximum allowable ash content requirements, which are presently set at 25% or less and verified with quarterly ash testing in line with CARE-approved testing protocols. Examples of Type 1 recycling materials include PCC fiber, PCC backing, engineered resins, and material for carpet cushion.

- **Type 2 Recycled Output Material:** Lower-valued recycled output with generally lower benefit to manufacturers of finished products and a lower value than Type 1 recycling materials. Type 2 recycling materials exceed 25% ash content in line with CARE-approved testing protocols. Examples of Type 2 recycling materials include carpet filler and non-functional filler.

**Recycling:** The process, consistent with PRC Section 40180, of converting post-consumer carpet into a useful product that meets the quality standards necessary to be used in the marketplace.

**Recycling Rate:** The proportion of carpet discards converted into recycled output, expressed as a percentage of carpet discards. The Program’s recycling rate goal is 16% by 2016 and 24% by 2020.

**Reported Diversion:** The sum of reported PCC removed from California landfills. It is calculated as the sum of reported pounds of reuse + recycled output (Type 1 + Type 2) + CAAF + Kiln + Carcass + Cushion + Export + WTE.

**Reuse:** The donation or sale of recovered carpet back into the market for its original intended use. The reuse of recovered carpet retains the original purpose and performance characteristics of the carpet.
Rug: A loose-laid (not installed or attached at wall base) soft floor covering manufactured from natural or synthetic fiber, including carpet cut into room or area dimensions that is not intended to cover the entire floor.

Rural County: California counties that meet the CalRecycle definition of rural: “A rural county is defined as a county which disposes of less than 200,000 tons of waste annually.” (PRC §40183-4)

SFOC: Sustainable Fund Oversight Committee of CARE.

Sorting: The method used for segregating collected carpet into the various backing types (e.g., PVC, SBR latex) and/or fiber types (e.g., nylon 6, nylon 66, polypropylene, polyester).

Source Reduction: The result of using less product or material in manufacturing and use of carpet, and/or reducing the amount of discarded carpet generated. For the purposes of this plan, source reduction specifically refers to the reduction of PCC ultimately sent to landfill.

Source Separation: The process by which carpet is separated/segregated from all other materials at the end of its useful life (or when discarded).

SPC: Stewardship Planning Committee of CARE.

Throughput: Consistent with the FacIT system definition, throughput means the total amount of material received at a facility, in tons per year for a specific activity in a given year, equal to gross collections. Throughput is presented in combination with a summary of final disposition data for gross collected discards managed by participating processors and collector/sorters.

Tier: Distinguishes end market uses of PCC Recycled goods. Where the term Type distinguishes between the level of processing of PCC, Tier is used to differentiate the end product applications that may or may not need incentives to facilitate their adoptions. Examples of Tier 2 finished products from Type 1 PCC fibers: depoly, fiber pad, home insulation batting, plastic lumber, engineered pellet, and non-woven filtration waddles.

Type: See Recycled Output (RO) above.


Yield: The ratio of gross collections converted into recycled output, expressed as a percentage of gross collections; also referred to as gross collection conversion rate.
Attachment 2. CARE Leadership

CARE Board of Directors (2018 Roster)

The CARE Board of Directors currently includes 19 members, listed below. Board members are unpaid, and they compose a multi-stakeholder group consisting of representatives of the carpet industry, entrepreneurs, government, the plastics industry, and suppliers to the carpet industry.

- Joe Yarbrough, Chair – The Carpet and Rug Institute
- Russell Bennett – Tandus-Centiva
- Russ DeLozier, Secretary – Engineered Floors, LLC
- Paul Devereux – Natural Transitions
- Don Dolan – Masland Contract
- Joe Foye, Vice-Chair – Mohawk Group Inc.
- Philip Ivey – Milliken & Company
- Anna Lange – South Carolina Department of Commerce
- Jim Lindsey – Aquafil USA
- Brendan McSheehy, Jr. – Universal Fiber Systems LLC
- Eric Nelson – Interface
- Robert Peoples – CARE, Executive Director
- Sean Ragiel – CarpetCycle, LLC
- Louis Renbaum – Wellman Plastics Recycling
- Wyatt Rollins – Shaw Industries Inc.
- Kasey Wakefield – Kruse Carpet Recycling
- Fred Williamson – Starnet Worldwide Commercial and Flooring Partnership
- Marjaneh Zarrehparvar – PaintCare

CARE Stewardship Planning Committee Members (SPC)

- Philip Ivey, Chair – Milliken & Company (2017 addition)
- Russell Bennett – Tandus-Centiva
- Russ DeLozier – Engineered Floors, LLC
- Joe Foye, Vice-Chair – Mohawk Group Inc.
- Eric Nelson – Interface
- Wyatt Rollins – Shaw Industries
- Joe Yarbrough – The Carpet and Rug Institute
CARE Sustainable Funding Oversight Committee Members (SFOC)

- Joe Yarbrough, Chair – The Carpet and Rug Institute
- Vance Bell – Shaw Industries Inc.
- Greg Minano – Interface
- Jeffery Loberbaum – Mohawk Group Inc.
- Jim McCallum – Milliken & Company
### Attachment 3. California Carpet Stewardship Plan

**Mill Participants**

*Updated as of December 31, 2017*

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* Beaulieu Group LLC filed for bankruptcy in July 2017. The assets were purchased by Engineered Floors in November 2017. However, the final disposition of Beaulieu's brands is not complete at this time. Also, Beaulieu Canada Company is a completely separate entity and not impacted by this bankruptcy.
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<td>American Home Fashions of California, Cabin Crafts, Couture Elegant Floors by Shaw, HGTV Home - Flooring by Shaw, Kathy Ireland Home Solutions, Patcraft, Philadelphia Commercial, Philadelphia Residential, Queen, Queen Commercial, Shaw, Shaw Contract Group, Shaw Home Foundations Flooring, Shaw Hospitality, ShawMark Home, Sutton Carpets, Tuflex</td>
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Attachment 4. Budget Narrative

In an effort to provide increased Program details related to projected revenue and expenses under this Plan, this budget narrative is provided as an additional supplement to information included in Chapter G. Financing Mechanism of the Plan. Additional narrative supporting how various projections were calculated, especially related to recycled output appears in Chapter C. Performance Goals & Activities, Chapter F. Market Development, and Attachment 9, Description of Models. The following table references portions of the PRC referring to the Financing Mechanism.

G. Financing Mechanism

PRC §42972(a)(4): Include a funding mechanism, consistent with subdivision (c), that provides sufficient funding to carry out the plan, including the administrative, operational, and capital costs of the plan, payment of fees pursuant to Section 42977, and incentive payments that will advance the purposes of this chapter, including incentives or grants to state-approved apprenticeship programs for training apprentice and journey-level carpet installers in proper carpet recycling practices. Any grants or subsidies provided for the recycling of postconsumer carpet shall be structured to incentivize the recycling of carpet materials that have the highest recyclability. The funding mechanism shall account for the need to provide the industry, including carpet installation contractors, with fair notice of changes to the amount of the carpet stewardship assessment established pursuant to subdivision (c).

PRC §42972(c)(1). The funding mechanism... shall establish and provide for... a carpet stewardship assessment per unit of carpet sold in the state in an amount that cumulatively will adequately fund the plan and be consistent with the purposes of the chapter. The assessment shall be remitted to the carpet stewardship organization on a quarterly basis and the carpet stewardship organization may expend the assessment only to carry out the plan.

PRC §42972(c)(2). The amount of the assessment and the anticipated revenues from the assessment shall be specified in the plan and shall be approved by the department as part of the plan. The amount of the assessment shall be sufficient to meet, but not exceed, the anticipated cost of carrying out the plan. The amount of the assessment shall not create an unfair advantage in the marketplace.
PROGRAM BUDGET

The Program Budget is presented in Chapter G. Financing Mechanism as Table 13, California Carpet Stewardship Program Budget, 2018-2022, and as Table 16 in this attachment, starting on page 275. Information presented below provides additional detail regarding each budget line item, how estimates were calculated and what types of expenditures are presently anticipated under each category for each year of this Plan. Although line item detail is provided, CARE retains the ability to make adjustments throughout the term such as but not limited to transfer of funds between line items or adjustment of budget category descriptions as needed to respond to dynamic market conditions and support actual expenditures in line with Program goals.

The Budget table is divided into 3 main sections: Revenue, Expenses and Year-End Balances.

Revenue

Revenue is presented at the top of Table 13, Lines 3-14. Revenue is listed as two categories: Beginning Balance and Assessments & Interest Income. See Reserve section (Line 135) below for more details.

- **Beginning Fund Balance (Line 4):** The fund balance at the beginning of the period, equal to the total amount of funding remaining at the end of the prior period. For example, the Program closed 2017 with an ending balance of $12.2M, as reported in Q4 2017 voluntarily submitted quarterly report. Of this, $4.1M is retained as a reserve consistent with the Program’s current definition. The beginning balance for 2018 is listed as $12.2M. The beginning fund balance is expected to decrease each year as recycled output levels and associated subsidy payouts increase. This reduction is reflected in years 2019-2022 fund balance forecasts.

- **Program Assessments (Line 11):** The amount of revenue anticipated to be collected by the Program based on the identified assessment per square yard and projected carpet sales. This is calculated as the product of sales (Line 6) multiplied by the average assessment per square yard (Line 10).
  
  o **Sales (Line 6):** The estimated carpet sales in square yards, based on sales trends from the first 6 years of the Program 2012-2017. Sales are projected to decline an average 1-2% per year over the course of this Plan. As sales decline, revenues...
are also expected to decline proportionally. The budget is built with an assumption that higher front-end investments in grants, technical assistance and other strategic elements can be reduced in the latter years of the Plan as secondary markets and recycled output demand becomes more robust. Sales estimates and trends are discussed further in the section on Assessment Impact on Carpet Sales on page 171.

- **Assessment per Square Yard (Line 10):** This identifies the average projected California Carpet Stewardship Assessment for each year of the Plan. The current assessment for 2018 is $0.25/square yard. The assessment is expected to increase January 1, 2019, to $0.35/square yard. Although the Program will consider the adoption of differentiated assessments during the term, the average assessment is expected to remain constant over the life of this Plan.

- **Interest Income (Line 12):** The estimated amount of interest earned on any revenues being held in the fund, approximately 0.05% of assessments. In 2017, the program earned $10K of interest income, or 0.047% of the $22M assessment revenue. Interest income for the years 2018-2022 has been estimated at .048% of each year’s forecasted assessment revenue.

- **Total Assessment Revenue & Other Income (Line 14):** Sum of Lines 11-12.

### Expenses

Expenses are listed by budget category and individual line item, with actual expenses for the prior year 2017, and each year of the 5-year Plan. Budget categories correspond to major strategies identified within the plan:

1. Subsidies (CSE Payout, Processor Payouts, Manufacturer Payouts);
2. Grants;
3. Collection;
4. Education & Outreach (E&O) and Technical Assistance; and
5. Program Expenses.

### Subsidy Payouts (Lines 16-62)

Subsidy Payouts list each major subsidy offered by payout category. Three payout sub-categories represent program participants active in: collection, processing (recycling) and manufacturing recycled products. The majority of
payouts are earned by Processors. Payouts are estimated based on projected increases in recycled output and associated collections and secondary products, as described further within the Plan (See Goals #4, 8 in Chapter C. Performance Goals, Chapter F. Market Development, and Chapter G. Financial Mechanism). Using an estimate of the historical split, pounds of recycled output are designated along with associated PC4 pounds and based on direct calls with Type 1 processors. Tier 2 output pounds associated with subsidy payments are estimated based on historical trends and anticipated growth plus direct conversations with Tier 2 manufacturers.

CSE Payout (Budget Lines 17-30)

Four payout categories are listed for CSEs:

- **Reporting Incentive (Lines 18-20)** – Incentive of $1000 per reporting period, offered to collector/sorters and small businesses to offset administrative expenses and tracking related to reporting. The program anticipates increase of one CSE, resulting in an increase from $36K/year in 2017 to $48K/year in 2018-2022. This is a legacy subsidy that was implemented prior to the official CSE program and was kept to further support CSEs.

- **Tile Reuse + Tile Pilot (Lines 21-23)** – Combines the Tile reuse subsidy ($0.10/lb.), plus Pilot subsidy ($0.05/lb.) designed to encourage collection and reuse or recycling of carpet tile. Combined projection for both subsidies anticipates an annual increase from ~131K lbs. in 2017 to approximately 5M lbs. by 2022, approximately equal to 6% of recycled output.

- **Whole Carpet (CSEs) (Lines 24-26)** – Subsidy ($0.02/lb.) for whole carpet collected, sorted, shipped and sold for recycling by CSEs. Reflects removal of cap, effective with this Plan. Due to the size of CSE operations, most participants were unaffected by this adjustment, reflected in the relatively flat growth in 2018-2022. The bulk of collections is driven by processors (86%) who also manage their own collections.

- **Whole Carpet (Processors) (Lines 27-29)** – Subsidy ($0.02/lb.) for whole carpet collected, sorted, shipped and sold for recycling by Processors (who also act as CSEs). Reflects removal of cap, effective with this Plan. Due to size of processor operations, the removed cap results in significantly higher anticipated payouts for this category in 2018-2022. Based on recycled output and yield targets outlined in this
plan (Goals #2, 4), collection pounds are expected to exceed 127M pounds/year by 2022. Such an increase in collections equates to an approximate 22% increase from 2017.

- **Total (Line 30)** – Sum of the subtotals from Lines 18, 21, 24, and 27.

**Processor Payout (Budget Lines 31-49)**

Six payout categories are listed for Processors:

- **Tile/Broadloom Reuse | Tile Recycled ($0.10/lb.) (Lines 32-34)** – Combines the Tile/Broadloom reuse subsidy and Tile recycled subsidy designed to encourage collection and reuse of tile and broadloom, as well as recycling of carpet tile. Combined projection for both subsidies anticipates an annual increase from ~650K lbs. in 2017 to over 4M lbs. by 2022, approximately equal to 5% of projected 2022 recycled output.

- **Type 1 Processed Fiber ($0.10/lb.) (Lines 35-37)** – The primary subsidy for high-value recycled output with ash content less than 25%. Payouts are estimated based on recycled output targets outlined within this plan (see Goals #4, 8) and accounting for anticipated tiered payouts at new adjusted 2M lb./month tier thresholds. Approximately 61% of recycled output (51M lbs.) in 2022 is projected to be attributable as Type 1 Fiber. Type 1 fiber may be composed of any polymer type. Type 1 non-nylon PET, PTT, and PP, nylon 6 and nylon 66 recycled output qualifies for manufacturer subsidies if used in Tier 2 recycled products.

- **Type 1 Commercial Broadloom Pilot ($0.02/lb.) (Lines 38-40)** – The portion of Type 1 recycled output estimated to be derived from processed commercial broadloom whole carpet. This pilot subsidy is paid in addition to the Type 1 Fiber subsidy. Approximately 1.5M – 4M/lbs./year is estimated beginning in 2019 as a new facility currently under construction is established. **NOTE: THIS SUBSIDY IS CURRENTLY SUSPENDED PENDING FURTHER DEFINITION** (see page 136).

- **PC4 ($0.17/lb.) (Lines 41-43)** – The portion of recycled output estimated to be derived from post-consumer carpet calcium carbonate (PC4), as the sifted ash residue from the carpet backing. Due to the low quality and residues present within this material a high subsidy is offered to incentivize use in secondary products. Earlier subsidy levels at 7 and then 12 cents/lb. failed to drive market traction for this material stream. This category is expected to continue to increase
over the term from ~10M pounds in 2017 to 28M pounds by 2022 (or approximately 34% of total recycled output). Examples of PC4 use in secondary products include agricultural amendments, rubber pavers, blocks and mats, landscape pathways, and stepping stones containing both post-consumer paint and PC4.

- **Type 2 CAAF | Type 2 Kiln ($0.03/lb.) (Lines 47-48)** – This subsidy is discontinued as of January 1, 2018 and reflected as a $0 expenditure throughout the term of the Plan. This change is aligned with new requirements of AB 1158, although CARE had committed in Q3 2016 to the timeline for eliminating these subsidy categories by January 1, 2018.

- **NOTES – Type 2 Fiber Subsidy ($0.03/lb.)** is not included in the budget table due to historically low levels of documented recycled output. At this time, virtually no Type 2 recycled output is being reported under the Program. The Plan retains the Type 2 subsidy level for participants and/or new processing technologies which may operate over the term. Due to the pound allocations for Type 1 material at higher payout rates, any amount of Type 2 RO produced during the term can be accommodated within the total program budget.

- **Total (Line 49)** – Sum of the subtotals from Lines 32, 35, 38, 41, and 44.

### Manufacturer Payouts (Budget Lines 50-60)

Three payout categories are listed for Manufacturers, based on each polymer category:

- **Non-Nylon Tier 2 PET/PTT ($0.25/lb.) (Lines 51-53)** – The portion of Type 1 non-nylon (PET/PTT) recycled output estimated to be utilized in the manufacture of recycled-carpet-content products. PET/PET Tier 2 products are expected to grow from 20M pounds in 2017 to 22M pounds by 2022. Examples of non-nylon products include: carpet cushion, plastic lumber, geotextiles, erosion control, padding, shelving, pellets and other materials.

- **Non-Nylon Tier 2 PP ($0.25/lb.) (Lines 54-56)** – The portion of Type 1 non-nylon (PP) recycled output estimated to be utilized in the manufacture of recycled-carpet-content products. PP Tier 2 products are expected to continue to remain relatively constant over the term to approximately 7.4M pounds by 2022 since PP remains a low
percentage of the recycled collection stream. Examples of non-nylon products include: carpet cushion, plastic lumber, geotextile, erosion control, padding, shelving, pellets and other materials.

- **Nylon 6 & Nylon 66 Tier 2 ($0.10/lb.) (Lines 57-59)** – The portion of Type 1 nylon 6 (N6) and nylon 66 (N66) recycled output estimated to be utilized in the manufacture of recycled-carpet-content products. This is a new subsidy launched in Q4 2017. In 2017, >1M lbs. earned the subsidy. N6/N66 Tier 2 products are expected to increase substantially in 2018 and then plateau in 2020-2022 at approximately 17M pounds/year.

- **Total (Line 60)** – Sum of the subtotals from Lines 51, 54, and 57.

**Total of all Subsidy Payouts (Line 62)** – Sum of CSE, Processor and Manufacturer subsidy payouts from Lines 30, 49, and 60.

**Grants Program (Lines 64-68)**

Grant funding is allocated to support the various grant elements outlined in the Plan including:

- Capital Improvements
- Product Testing and Development
- Procurement
- Micro-Grants
- Design & Innovation
- Additional grant elements as may be developed over the term of this Plan.

The Grants program is discussed in detail in *Chapter F. Market Development, Grants* section. The budget is designed to be flexible and may be shifted between grant elements to support the ongoing needs of the Plan and accomplish performance goals. Grant allocation for 2018 were $2M, equal to the upward limit for CARE’s Cycle 1 allocation. See budget table for allocations from 2019-2022 which decrease to $1.1M per year in 2021 and 2022 as recycled output begins to increase and program priorities shift to other strategy areas including subsidies, the biggest driver of recycling rate. An initial grant strategy has been developed for the 5 years of this Plan, although precise allocations will be considered annually to support goals.
The initial combined grant funding totals approximately $12.4M over 5 years. While the precise annual allocations or number of solicitations releases for each category may be adjusted over the 5-year term, the 2018 grant budget is currently anticipated for allocation in the following way:

- **Capital Improvements (Cycle A):** An estimated $2M will be allocated for Cycle A grants to increase processing and manufacturing capacity on a biennial schedule. This approach would result in a total of $4M available for awards in both 2018 and 2020, with payouts occurring in 2018-2021. Awards will also likely be made in 2022, but funding would likely not be released until 2023. In Cycle 2 of 2018, a minimum of 75% of funds are committed to California-based entities, up from 50% earmarked for California-based entities in Cycle 1. CARE may allocate more funding to this grant category if needed. Based on Cycle 1 of grants, the Program has demonstrated that modest investments in grants can have a significant impact in new capacity, higher throughput, accelerated timeline to market, and even project locations. In 2016-17, CARE awarded approximately $2M in capital and product testing with positive results (see Chapter F. Market Development, Grants section on page 145). The proposed grant budget replicates this success in 2018 and 2020, while also adopted a more reasonable 2-year grant implementation timeline.

- **Product Testing and R&D (Cycle B):** Approximately $1M is earmarked for Cycle B grants in 2018. This cycle will run through 2019. It is currently anticipated that $500K will likely be allocated annually through 2022, for a total of $3M in testing funds over five years. In Cycle 2 of 2018, 75% of funds are committed to California-based entities. CARE may allocate more or less funding to this grant category if/as needed. Testing has proven to be a critical part of market development success in bringing to the marketplace new products that are sustainable end uses for PCC.

- **Product Procurement (Cycle C):** In 2018, CARE plans to rework Cycle C grants for a potential Cycle 2 release in 2019 based on a lack of impact in Cycle 1C. Based on the category’s subscription level, CARE may adjust this budget upward or downward. This grant category will be critical to closing the loop on new products made with PCC. The funds are intended for state and local government agencies, which may be slow to adopt products that are new to the marketplace. A CARE procurement grant could be the incentive needed to begin pushing these products through the supply chain.
• **Micro Grants for Collection/Reuse (Cycle M):** CARE has allocated $75K to Cycle M Micro Grants in 2018 and intends to award between $50-$100K to this category annually over the next five years. It is currently estimated that a minimum of $250K total will be awarded under this grant category over 5 years. Grants are for new or existing California projects only to increase collections or reuse. CARE drop-off sites and Collector/Sorter/Entrepreneurs are encouraged to apply. CARE may allocate more or less funding to this category as needed. Through Cycle 1M, CARE found that small amounts of $10K are critical to helping drop-off sites and local hauling operations to collect and divert more useable PCC away from landfill. CARE elected to raise project caps to $15K in 2018 after finding that most projects cost between $10-$20K. In Cycle 1M, all viable applicants were funded and resulted in approximately 11M pounds of additional collection annually through CARE Drop-off sites and CSEs. These added collection pounds will become increasingly important as demand for raw PCC grows through the addition of new processors and manufacturers.

• **Design & Innovation (Cycle D):** In 2019, CARE plans to consider development of a pilot grant cycle for innovation and design grants (Cycle D). “Innovation” grants, intended for colleges and universities, may be within the $10-$100K range, and would be intended to encourage ideas around the design of sustainable products made from PCC. Adding an innovation and design grants category would help CARE in meeting the other goals of the plan, including carpet-to-carpet design, upcycling PCC, and PCC closed loop recycling. This category would likely be open to companies both inside and outside of California in order to encourage carpet mills, largely located in the Southeast, to design products with minimal environmental impact and end-of-life considerations.

• **Apprentice/Journey-Level Installer Grants and Incentives:** CARE has also allocated $100,000 per year for the life of this Plan to fund union related training efforts through incentives or grants to support state-approved apprenticeship programs for training apprentice and journey-level carpet installers in the proper carpet recycling practices as prescribed by the Carpet Stewardship Laws.

Within the current CARE Plan, grant amounts decrease over time, assuming that new capacity installed in earlier years will obviate the need to install the same amount of increased capacity each year as the program becomes more established. Funding may be moved between years, however, to accommodate evolving capacity, testing, procurement, collections, reuse and innovation needs.
• **Total (Line 68)** – Sum of the subtotals from **Lines 65-66**. **Line 68** includes all grant element categories covered under this Plan.

• **Line 67** included specific grant allocations from prior year(s).

**Collection Program (Lines 70-72)**

Collection funding is identified to support collection goals and tactics listed under this Plan. The collection program is discussed in detail in *Chapter E. Collection System*. This budget line item includes the following activities related to CARE’s public drop-off site program:

- Collection & Storage Trailers/Containers
- Transportation of Trailers/Containers from drop-off sites to receiving CSE/processors
- CSE/Processor Tipping Fees
- Dispatch & Logistics Support
- **Signage & Promotional Materials, Web Support (covered within E&O budget)**
- **Staff Technical Assistance/Trouble-shooting, Support (covered within staffing or TA budgets)**

The collection program anticipates increasing expenditures in years 2018-2022 as the Program continues to add drop-off sites, increased frequency of services (# of swaps per unit of time), and an increase in the weight or efficiency of each average load through continued technical assistance support. E&O promotion is also anticipated to generally increase collection at drop-off sites as more retailers, installers and DIYers become aware of each drop-off site location. As sites become more established, more pounds of materials may be collected over each period of time.

As of Q4 2017, 44 sites were participating in the program, up from 32 sites in 2016. In 2018, CARE anticipates adding 14 additional sites for a total of 58 sites, increasing the estimated collection total cost from $700K in 2017 to $1.4M. This increase is partially due to many sites coming onboard late in 2017, resulting in few swaps and thus lower per site costs. Additional sites may be added in later years of the Plan based on results of the convenient collection study or to otherwise support performance goals under this Plan, reflected in the increase from $1.4M to $1.8M/year forecasted for 2019-2022. Projections consider trends to date over 2014-2017 including the average cost/pound, average cost/site/year and average cost/swap. Projections
assume that the average cost/pound collected remains relatively constant throughout the term, while the number of swaps increase an average of 15%-20%. Although the program is working hard to increase efficiencies, the projections assume an average 5-10% increase in the average cost/service as the low hanging fruit are now fully onboarded and additional sites require more customized service offerings. A 9% contingency is also included in this projection to account for unforeseen developments, changing market conditions or adjustments required based on the results of the convenient collection study in later years of the Plan.

Education & Outreach and Technical Assistance (Lines 74-87)

This budget is divided into two major categories: E&O and TA.

Education & Outreach (E&O) (Lines 75-78)

E&O is discussed in detail in Chapter H. Education & Outreach. The budget related to E&O has been reduced slightly from prior proposals in response to Advisory Committee feedback to limit E&O expenditures to 3.5% of total expenses. Due to prior contractual commitments, this is reflected in the reduction from $1.3M to $1.2M in 2020 (Year 3) of the Plan. Nonetheless the budget includes a significant increase in 2018 over 2017 in response to CalRecycle and Advisory Council input and in consideration of other stewardship programs such as Paint and Mattress, each allocating 10-16% of their budget to E&O activities. As a result, E&O budget payouts are currently: 2018 5.1%, 2019 4.2%, 2020 3.6%, 2021 3.9%, and 2022 4.0%. Under this Plan, E&O will focus on stakeholder audiences outlined in Chapter H, through estimated budget allocations in 10 main subcategories:

- Local Government Outreach
- Retailer Outreach
- Installer Outreach
- Market Development
- Consumer Outreach
- Drop-Off Site Outreach
- Regional Approach
- Assessment Change
• Ongoing Marketing, Education & Outreach

• Program Support for California Team

Estimation provided below reflects allocated expenses for 2018 and may be adjusted year to year over the term. Additional subcategories may also be added or removed, and budget may be transferred between subcategories as needed due to market changes, communications feedback, stakeholder dynamics or to otherwise support the goals of the Plan.

• **Local Government Outreach**: Collateral and outreach to recycling coordinators, local government procurement professionals and other authorities who influence carpet recycling. Includes outreach to secure and promote new drop-off sites, engage retailers for private pick-up service, outreach to installers/contractors, and promote procurement opportunities. Approximately $55K is allocated in 2018, (4%) of E&O budget line.

• **Retailer Outreach**: Collateral and outreach to carpet retailers, with adjusted annual focus areas. Included site visits to all retailers in prior Plan. In 2018, emphasis will be placed on big box stores, regional chains and online retailers. Approximately $190K is allocated in 2018, (15%) of E&O budget line.

• **Installer Outreach**: Provide installers with updated, accurate info on recycling opportunities and best practices. Address additional audiences such as general contractors, HOAs and property managers as services or opportunities become available. May include training or outreach at supply houses, distribution centers, builder exchanges, and coordination with installer unions, associations and workforce training programs. Approximately $130K is allocated in 2018, (10%) of E&O budget line.

• **Market Development**: Support outreach and provide content to all target audiences for market and product development and demand generation. New major emphasis area for 2018 includes DoubleGreen™ promotion, procurement, product promotion, grants support and other demand generation. Approximately $238K is allocated in 2018, (18%) of E&O budget.

• **Drop-Off Site Outreach**: Outreach, communications, collateral for CARE drop-off sites, especially related to each new site launch, new developments or target audience promotion. Includes signage, website support, flyers and other materials; may include digital media or other localized promotions. Approximately $75K is allocated in 2018, (6%) of E&O budget line.
• **Consumer Outreach**: Information for consumers and NGOs on carpet recycling and recycled product options. Does not currently include broad advertising tactics. May include signage, decals, flyers, website, social media, digital advertisements, or other promotions. Approximately $60K is allocated in 2018, (5%) of E&O budget line.

• **Regional Approach**: Integrated regionally targeted outreach approach to retailers, installers, drop-off sites, consumers and local governments in specific regions, replicating best practices from pilot regions. Continues concentrated multi-touch campaign efforts in new regions over time. Two pilot regions were initiated in 2017 (Los Angeles and Sacramento), additional regions will be added over the term. Approximately $142K is allocated in 2018, (11%) of E&O budget line.

• **Assessment Change**: Targeted compliance communications and outreach to retailers and installers related to the anticipated assessment change, scheduled January 1, 2019. Notice communications begin 90 days prior to each assessment change. Based on experience approximately $39K is allocated in 2018, (3%) of E&O budget line.

• **Ongoing MEO**: Ongoing cross-sector communications, education and outreach. These efforts reach across multiple target audiences. This item also includes data management and collection within a Customer Relationship Management (CRM) database. Approximately $239K is allocated in 2018, (18%) of E&O budget line.

• **Program Support for California Team**: Management and resource support for reporting, metrics tracking, stakeholder engagement and advisory committee support. Includes the California Annual Report production. Approximately $133K is allocated in 2018, (10%) of E&O budget line.

• **Advisory Committee (Line 77)**: Expenses related to the management, catering, room rental, audio/visual or other resources for Advisory Committee meetings. Also includes travel and related reimbursement for committee representatives. Expenditures are based on 2016 expenses incurred for Council support and anticipated to remain constant throughout the term.

• **Total (Line 78)** – Sum of the subtotals from Lines 76-77.
Technical Assistance (Lines 79-85)

Technical assistance (TA) is discussed in detail in Chapter F. Market Development, Technical Assistance section. TA includes 5 main program expense categories:

- **Modeling Consultant (Line 80):** Expenses related to model development, refinement and maintenance to enable CARE to track and forecast cost and macroeconomic trends to support program planning and oversight. Models are discussed in detail in Attachment 9. Modeling is estimated to range from $60-80K/year over the term of the plan.

- **PET Project Allocation (Line 81):** California portion for national research and development on PET technological innovations, estimated at $12K/year throughout the term.

- **Product Testing (Line 82):** Funding to support product testing, research and development to drive innovation and accelerate new product development and expansion. In 2018, allocated budget resources identified to date include studies on: 1) potential environmental impacts of PC4 utilization as a soil amendment in partnership with UC Davis, and 2) demonstration project study on use of PET fiber and PC4 in civil engineering applications. Additional studies may be identified over the term. Funding is concentrated in early years of the plan with $250K allocated in 2018, tapering off to $100K/year in 2020-2022.

- **Technical Assistance (Line 83):** Staff or consultant service in support of product and market development, product testing, quality refinement, ideation, demand generation, procurement policy or promotion and related activities. May also include technical assistance in other program areas such as collection. Funding is concentrated in early years of the plan with $488K/year allocated in 2018 and $738K in 2019, tapering off to $288K/year in 2020-2022. This budget line includes an increase of approximately 2 FTEs in Year 1-2.

- **Program Studies (Line 84):** Funding for specialized studies, analysis, research and development on various topics as identified in this Plan or as may be identified over the term to facilitate program planning and decision-making. Studies anticipated within this budget line may include but are not limited to: 1) Convenient Collection Study, 2) Discards Formula Study, 3) highest recyclability research, 4) Reuse Study, 5) Capacity Analysis, 6) Differential Assessment Study, 7) Closed-Loop Design R&D, 8) Rebate R&D, 9) Label & Certification R&D, etc. Additional studies may be identified over the term. Funding
is concentrated in early years of the plan with $350K allocated in 2018, tapering off to $150K/year in 2021-2022.

- **Total (Line 85)** – Sum of the subtotals from Lines 80-84.
- **Total (Line 87)** – Sum of the subtotals from Lines 78, 85.

**Program Expenses (Lines 89-122):**

Program expenses represent remaining delivery, administrative management and program oversight expenditures under this plan. Program expenses fall into 6 budget categories: Accounting & Legal, Direct, Direct Support, CARE administrative and CalRecycle Administrative.

**Accounting & Legal (Lines 90-95)**

Includes anticipated expenditures related to accounting, database management, reporting, assessment collection, legal, risk management, agreed upon procedures (AUPs) and other program controls. Expenditures are expected to remain relatively stable throughout the term, with minor annual increases built into projections. Four categories are included within this budget line:

- **Data Collection & Auditing (Line 91):** Includes expenses related to contracted service support for quarterly mill assessment remittance/reporting, monthly subsidy payouts, quarterly/annual reporting, AUPs, database management, and related analysis and reporting tasks. This budget line is estimated to range from $272-306K/year over the term.
- **Accounting (Line 92):** Expenses related to assessment remittance tracking and general accounting, estimated at $42-47K/year over the term.
- **Independent Audits (Line 93):** Expenses related to program required auditing for annual reporting or as otherwise requested over the term in line with statutory requirements, estimated at $36-41K/year over the term.
- **Legal Expense (Line 94):** Expenses related to legal services. In 2017 and 2018, legal expenses increased although this line is expected to be reduced in 2019. This budget line is estimated at $123-70K/year over the term.
- **Total (Line 95)** – Sum of the subtotals from Lines 91-94.
Direct (Lines 96-98)

Includes direct CARE salaries and staff. Includes an additional 3 new FTEs in addition to FTE Director in 2018-2019, and basic annual cost increases over the term.

Direct Support (Lines 99-103)

Staffing contractor support and expenses, falling into 4 main categories:

- **Program Travel (Line 100):** Direct expenses related to travel such as airfare, meals, hotel and related staff reimbursements. Projected increases are associated with planned additional staffing. This budget line is estimated to range $120-232K/year over the term.

- **Professional Services (Line 101):** Expenses related to professional services provided by various contractors. Includes program project execution, annual and quarterly reporting, monthly data reviews, grant administrative services, collection support services, general consulting that may be employed and planned support increases in 2018-2020, tapering off in later years of the plan. This line is estimated at $643-455K/year over the term.

- **Annual Report to CalRecycle (Line 102):** Expenses related to preparation and submission of the annual report, estimated as $26K/year throughout the term. Additional support for this task is allocated under the E&O or professional service budget line items.

- **Total (Line 103)** – Sum of the subtotals from Lines 100-102.

CARE Administrative (Line 104-117)

Administrative expenses incurred by CARE include the following 11 categories:

- **Bank Service Charge (Line 105):** Minor fees related to banking services, estimated as $2K/year over the term.

- **Dues & Subscriptions (Line 106):** Minor fees related to professional dues and subscriptions, estimated as $1K/year over the term.

- **Shipping & Mail (Line 107):** Costs related to postage and shipping, estimated as $3K/year over the term.

- **Office Expense (Line 108):** Costs related to minor office expenses such as supplies and materials, estimated as $9K/year over the term.
- **Telephone (Line 109)**: Costs associated with phones and connectivity, estimated as $2K/year over the term.

- **Facilities (Line 110)**: Costs associated with office rent, utilities and other facilities expenses, estimated as $21K/year over the term.

- **Leases (Line 112)**: Costs associated with copier and related equipment leases, estimated as $2K/year over the term.

- **Depreciation (Line 112)**: Estimated as $0/year over the term.

- **Independent Insurance (Line 113)**: Costs associated with insurance policy, estimated as $8K/year over the term.

- **Reporting Database Development & Management (Line 114)**: Allocates funding to support development of a new online database management system for subsidy reporting and program tracking. Builds on historical excel-based data reporting system to increase sophistication, functionality and improve program performance tracking for better planning and decision-making. Expenses are concentrated in Years 1-2, with $250K allocated in 2018, $60K allocated in 2019 and annual maintenance and refinement estimated at $50K/year for the remaining term.

- **Misc. (Line 115)**: Contingency associated with additional miscellaneous or unanticipated expenses necessary to support the goals of the program, estimated as $100K/year over the term.

- **Total (Line 117)** – Sum of the subtotals from Lines 105-116.

**CalRecycle Administrative (Line 118-120)**

CalRecycle administrative fee is associated with regulatory oversight of the Program as defined in statute. The total amount of the administrative fees paid for a calendar year may not exceed 5% of the aggregate assessments collected for the preceding calendar year. It is anticipated, based on projected sales and assessments that expenses in this category will range from $1.1M in 2018-2019 to $1.5M in 2020-2022.

**Total Program Expenses (Line 122)** – Sum of all program expenses subtotals (Lines 95, 98, 103, 117, 120)
TOTAL EXPENSES (Lines 124-131)

Lines 124-131 provide annual subtotals for each major category: Total Subsidy Expense; Total Grant Expense; Total Collections Expense; Total E&O and TA Expense; and Total Program Expenses.

- **Total Expenses (Line 131):** The combined total annual expenses for all expense categories. The sum of Lines 125-129. Total expenses are expected to increase from $16M in 2017 to $25M in 2018 and range annually between $31M and $33M between 2019 and 2022.
  - **Total Subsidy Expense** – Increase from $11M in 2017 to $16M in 2018 (Year 1) to $21M (Year 5). Payouts correspond to increased pounds of material collected, processed (recycled), and manufactured into secondary products in line with annual recycled output pound targets outlined in Goal #4. Subsidies range from a low of 62% of total expenses in 2018 to 71% by 2022. One objective of this Program is to work to maximize subsidy payments as a critical element in driving the recycling rate. A high grant allocation in 2018 is why the subsidy percentage is so low that year.
  - **Grant Expenses** – Grant allocation for 2018 is $2M, equal to the upward limit for CARE’s Cycle 1 allocation. Grants vary over the term of the Plan and are at a high in 2019 due to front loading for capacity expansion and product development. Grants fall to $1.1M in 2021-2022 as recycled output begins to increase and program priorities shift to other strategy areas.
  - **Collections Expense** – Collection allocation increases to $1.4M in 2018, and then to $1.8M in 2019-2022, as new sites are on-boarded and existing sites increase the quantity and frequency of service swaps.
  - **E&O and TA Expense** – Allocation increased from $1M in 2017 to $2.6M in 2018 and decreasing over the term of the Plan as the program is established.
  - **Program Expenses** – Allocation increased from $2.4M in 2017 to $3.7M in 2018 before peaking at $4.0M in 2020. Expenses are expected to taper off in years 2021-2022. Increases are primarily due to increased allocations for staffing, professional services, database development and CalRecycle administrative fees.
YEAR-END BALANCES (Lines 132-135)

- **Year-End Fund Balance (Includes Reserve) (Line 133):** The estimated amount of surplus (in $), plus the reserve remaining in the fund at the end of the year based on projected expenditures. The Year-End balance is expected to average approximately $7.0M/year over the term of this Plan.

- **Reserve (Line 135):** The estimated reserve set-aside to ensure fund solvency, equal to a two-month average of total expenses over the last two quarters. Total expenses include subsidies, incentives, program expenses, administrative expenses, and the CalRecycle administrative fee. The reserve functions as part of the Program’s financial assurance mechanisms. The annual reserve is anticipated to average $5.2M over the term of the Plan. (Note this balance reflects a change in reserve calculation from the past.)

The 5-year budget is set to meet but not exceed the anticipated cost of the Plan, while ensuring that the minimum reserve is met. Excess funds may be reallocated between line items to accomplish the goals of the Program. Although a surplus of over $12M is present within the fund at the close of 2017, it is anticipated that this amount will be reduced substantially in 2018-2022 as recycled output and corresponding subsidy payouts increase over the term.

*Note: All 2017 amounts are final since the independent audit is complete and resulted in no findings, issues, or recommendations.*
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<tr>
<td>3</td>
<td>Revenue</td>
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<td>4</td>
<td>Beginning Fund Balance</td>
<td>$ 6,191,281</td>
<td>$ 12,216,062</td>
<td>$ 9,333,212</td>
<td>$ 8,876,836</td>
<td>$ 6,247,851</td>
<td>$ 5,512,436</td>
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<td>5</td>
<td>Assessments &amp; Interest Income</td>
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<td>6</td>
<td>Estimated Sales in Square Yards</td>
<td>90,400,000</td>
<td>90,000,000</td>
<td>88,000,000</td>
<td>87,000,000</td>
<td>86,000,000</td>
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<td>7</td>
<td>Discards</td>
<td>336,364,434</td>
<td>328,889,669</td>
<td>325,152,286</td>
<td>321,414,904</td>
<td>317,677,521</td>
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<td>8</td>
<td>Forecasted Recycling Rate as of 12/31/XX</td>
<td>16.7%</td>
<td>24.3%</td>
<td>25.8%</td>
<td>26.1%</td>
<td>26.7%</td>
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<td>9</td>
<td>Pounds of Recycled Output required to meet forecasted percentage</td>
<td>51,697,062</td>
<td>69,045,491</td>
<td>81,209,570</td>
<td>83,297,892</td>
<td>83,786,607</td>
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<td>Assessment Fee per Square Yard</td>
<td>$ 0.25</td>
<td>$ 0.25</td>
<td>$ 0.35</td>
<td>$ 0.35</td>
<td>$ 0.35</td>
<td>$ 0.35</td>
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<td>11</td>
<td>Program Assessments</td>
<td>$ 22,716,505</td>
<td>$ 22,500,000</td>
<td>$ 30,793,377</td>
<td>$ 30,443,452</td>
<td>$ 30,093,528</td>
<td>$ 29,743,603</td>
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<td>12</td>
<td>Interest Income</td>
<td>$ 10,772</td>
<td>$ 15,866</td>
<td>$ 11,955</td>
<td>$ 9,296</td>
<td>$ 7,109</td>
<td>$ 6,673</td>
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<td>13</td>
<td>Total Assessment Revenue &amp; Other Income</td>
<td>$ 22,727,277</td>
<td>$ 22,515,866</td>
<td>$ 30,805,332</td>
<td>$ 30,452,748</td>
<td>$ 30,100,637</td>
<td>$ 29,750,276</td>
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*2018 Actual through 5/2018 & Budgeted for remainder (12-10-2018)
Table 16. California Carpet Stewardship Program Budget, 2018-2022 (part 2 of 9)

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<thead>
<tr>
<th>A1</th>
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<tr>
<td>16</td>
<td>Subsidy Payouts</td>
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<tr>
<td>17</td>
<td>CSE Payout Category</td>
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<td>18</td>
<td>CSE Reporting Incentive</td>
<td>$ 34,000</td>
<td>$ 48,000</td>
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<td>19</td>
<td>CSE Reporting Incentive Monthly Amount</td>
<td>$ 1,000</td>
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<td>$ 1,000</td>
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<tr>
<td>20</td>
<td>CSE Reporting Incentive Participants x 12 Months</td>
<td>3</td>
<td>48</td>
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<td>48</td>
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<tr>
<td>21</td>
<td>Tile REUSE (Includes 5¢ Incentive Pilot as of 01/01/18)</td>
<td>$ 13,128</td>
<td>$ 257,572</td>
<td>$ 550,761</td>
<td>$ 675,609</td>
<td>$ 767,359</td>
<td>$ 718,557</td>
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<tr>
<td>22</td>
<td>Tile REUSE Subsidy (per lb)**</td>
<td>$ 0.10</td>
<td>$ 0.15</td>
<td>$ 0.15</td>
<td>$ 0.15</td>
<td>$ 0.15</td>
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<td>23</td>
<td>Tile REUSE Pounds</td>
<td>131,280</td>
<td>1,963,678</td>
<td>3,671,737</td>
<td>4,504,061</td>
<td>5,115,726</td>
<td>4,790,382</td>
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<td>24</td>
<td>Whole Carpet Shipped and Sold for recycling (CSEs)</td>
<td>$ 201,022</td>
<td>$ 213,285</td>
<td>$ 176,835</td>
<td>$ 176,835</td>
<td>$ 176,835</td>
<td>$ 176,835</td>
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<tr>
<td>25</td>
<td>Whole Carpet (CSEs) Subsidy (per lb)**</td>
<td>$ 0.02</td>
<td>$ 0.02</td>
<td>$ 0.02</td>
<td>$ 0.02</td>
<td>$ 0.02</td>
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<tr>
<td>26</td>
<td>Whole Carpet (CSE) Pounds</td>
<td>10,664,263</td>
<td>8,841,740</td>
<td>8,841,740</td>
<td>8,841,740</td>
<td>8,841,740</td>
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<tr>
<td>27</td>
<td>Whole Carpet Shipped and Sold for recycling (Processors)</td>
<td>$ 660,539</td>
<td>$ 1,179,863</td>
<td>$ 1,723,410</td>
<td>$ 2,077,495</td>
<td>$ 2,144,396</td>
<td>$ 2,113,000</td>
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<td>28</td>
<td>Whole Carpet (Processors) Subsidy (per lb)**</td>
<td>$ 0.02</td>
<td>$ 0.02</td>
<td>$ 0.02</td>
<td>$ 0.02</td>
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<tr>
<td>29</td>
<td>Whole Carpet (Processors) Pounds</td>
<td>$ 33,026,950</td>
<td>58,994,126</td>
<td>86,170,510</td>
<td>103,874,885</td>
<td>107,219,824</td>
<td>105,650,011</td>
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<td>30</td>
<td>Total All CSE Payouts</td>
<td>$ 908,689</td>
<td>$ 1,698,740</td>
<td>$ 2,499,006</td>
<td>$ 2,977,939</td>
<td>$ 3,136,590</td>
<td>$ 3,056,392</td>
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*2018 Actual through 5/2018 & Budgeted for remainder (12-10-2018)
**Only first tier rates are listed.
Table 16. California Carpet Stewardship Program Budget, 2018-2022 (part 3 of 9)

<table>
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<td>16</td>
<td>Subsidy Payouts</td>
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<td></td>
</tr>
<tr>
<td>31</td>
<td>Processor Payout Category</td>
<td>Tile REUSE/Broadloom REUSE/Tile Recycled/Other</td>
<td>$ 107,685</td>
<td>$ 187,611</td>
<td>$ 222,091</td>
<td>$ 292,824</td>
<td>$ 291,254</td>
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<td>32</td>
<td>Tile REUSE/Broadloom REUSE/Tile Recycled Subsidy (per lb)**</td>
<td>Varying subsidies. This is calculated by a percentage based on historical amounts.</td>
<td></td>
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<tr>
<td>33</td>
<td>Tier 1 Processed Fiber</td>
<td>$ 3,542,100</td>
<td>$ 3,169,581</td>
<td>$ 4,136,184</td>
<td>$ 4,985,994</td>
<td>$ 5,146,552</td>
<td>$ 5,071,201</td>
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<tr>
<td>34</td>
<td>Tier 1 Processed Fiber Subsidy (per lb)**</td>
<td>$ 0.10</td>
<td>$ 0.10</td>
<td>$ 0.10</td>
<td>$ 0.10</td>
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<tr>
<td>35</td>
<td>Tier 1 Processed Fiber Pounds</td>
<td>35,421,000</td>
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<td>Type 1 Commercial Broadloom Incentive (Pilot)</td>
<td>$ 29,985</td>
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<td>$ 76,646</td>
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<td>Type 1 Commercial Broadloom Incentive (Pilot) Subsidy (per lb)**</td>
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<td>$ 0.02</td>
<td>$ 0.02</td>
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<td>Type 1 Commercial Broadloom Incentive (Pilot) Pounds</td>
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<td>Tier 1 PC4 (PCC Calcium Carbonate)</td>
<td>$ 1,791,384</td>
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<td>$ 4,295,290</td>
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<td>Tier 1 PC4 (PCC Calcium Carbonate) Subsidy (per lb)**</td>
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<td>Tier 1 PC4 (PCC Calcium Carbonate) Pounds</td>
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<td>Type 1 Nylon 6 &amp; Nylon 66 HR Incentive</td>
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<td>Type 1 Nylon 6 &amp; Nylon 66 HR Incentive Subsidy (per lb)**</td>
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<td>Type 1 Nylon 6 &amp; Nylon 66 HR Incentive Pounds</td>
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<td>Type 2 Kiln</td>
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*2018 Actual through 5/2018 & Budgeted for remainder (12-10-2018)
**Only first tier rates are listed.
### Table 16. California Carpet Stewardship Program Budget, 2018-2022 (part 4 of 9)

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<td>Non-Nylon Tier 2 PET/PTT</td>
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<td>Non-Nylon Tier 2 PET/PTT Pounds</td>
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<td>Nylon 6 &amp; Nylon 66 Tier 2 (Pilot)</td>
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<td>Total All Manufacturers Payouts</td>
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<td>Total Subsidy Payouts</td>
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*2018 Actual through 5/2018 & Budgeted for remainder (12-10-2018)
**Only first tier rates are listed.
### Table 16. California Carpet Stewardship Program Budget, 2018-2022 (part 5 of 9)

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<td>2021 Forecast</td>
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<td>Grants - Apprenticeship &amp; Journey Level Training</td>
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<td><strong>Total Grants Program Expense</strong></td>
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*2018 Actual through 5/2018 & Budgeted for remainder (12-10-2018)

**Only first tier rates are listed.
### Table 16. California Carpet Stewardship Program Budget, 2018-2022 (part 6 of 9)

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<td><strong>2022 Forecast</strong></td>
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<td>74</td>
<td>E&amp;O and Technical Assistance Expense</td>
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<td>Education &amp; Outreach (E&amp;O)</td>
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<td><strong>Total Education &amp; Outreach Expense</strong></td>
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<td><strong>Total E&amp;O and Technical Assistance Expense</strong></td>
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*2018 Actual through 5/2018 & Budgeted for remainder (12-10-2018)
**Only first tier rates are listed.
### Table 16. California Carpet Stewardship Program Budget, 2018-2022 (part 7 of 9)

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*2018 Actual through 5/2018 & Budgeted for remainder (12-10-2018)

**Only first tier rates are listed.
### Table 16. California Carpet Stewardship Program Budget, 2018-2022 (part 8 of 9)

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*2018 Actual through 5/2018 & Budgeted for remainder (12-10-2018)

**Only first tier rates are listed.
Table 16. California Carpet Stewardship Program Budget, 2018-2022 (part 9 of 9)

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*2018 Actual through 5/2018 & Budgeted for remainder (12-10-2018)

**Only first tier rates are listed.
Attachment 5. CARE Response to Advisory Committee Recommendations

SPC Response to Advisory Committee Recommendations

For Plan Submittals Dated:

August 17, 2018

and

March 16, 2018
DATE: August 3, 2018
TO: Advisory Committee, California Carpet Stewardship Program
FROM: Robert Peoples, Executive Director

CARE’s Response to Advisory Committee July 19, 2018 Recommendations on Draft California Carpet Stewardship Plan 2018-2022 (July 13, 2018)

The Stewardship Planning Committee (SPC) carefully evaluated and discussed each of the 7 Advisory Committee recommendations in its letter dated July 19, 2018, based on CARE’s shared July 13, 2018 draft of its California Carpet Stewardship Plan. This document provides CARE’s response to each recommendation in compliance with the Carpet Stewardship Law, California Public Resources Code § 42972.1(c).1 CARE also notes that the revisions in the July 13 draft Plan respond to CalRecycle’s May 15, 2015 decision and the Advisory Committee’s three total comments on the final submitted March 2018 Plan.

#1 – HIGHEST RECYCLABILITY (TABLE 6)

Motion 1.1

The Committee recommends that CARE expand on the description and rational of the methodology used by the SPC in determining the Table 6 ratings for highest recyclability.

CARE Response: CARE’s draft Plan incorporates substantial changes to Table 6 and the associated text in the Plan in response to prior received comments. CARE agrees to revisit and further expand that text as warranted to sufficiently explain the Plan’s approach to highest recyclability. As specified in the Plan, this table may evolve during the approved Plan period as technology and markets evolve.

Amended Motion 1.2 The Committee recommends that revisions to Table 6 are conducted in a public process within 6 months of Plan approval and as necessary thereafter; and that the process includes coordination by an independent consultant.

CARE Response: CARE accepts the recommendation to define a transparent approach to revising Table 6, using an industry-independent facilitator and beginning upon Plan approval. CARE will not make substantial changes to Table 6 unilaterally. A separate and unbounded “public process” for this purpose is not required by statute and could impede timely and orderly implementation of the Plan and realization of its goals. However, CARE will convene recognized experts in the field of recycling and sustainability in a process as outlined in the Plan.

1 The Advisory Committee’s citation in its letter to “Section 42971.1” does not exist.
#2 DIFFERENTIAL ASSESSMENTS

Motion 2.1

The Committee recommends that the Stewardship Organization implement a system of differential assessments, which could include a consumer rebate program, based on face-fiber type that correlates to the subsidy required to have it be economically recycled, with adequate time for implementation by January 1, 2020.

CARE Response: CARE incorporates its response to this recommendation in the draft Plan v80 submitted to the Advisory Committee for review (pages 174-176), the most relevant text of which is reproduced below. Implementation of the specific recommendation is not feasible under the statute, and for the reasons requiring further study may not serve the statutory and Plan goals.

In the future, the Program may apply differential assessments such as for different fiber types, market segments, price, etc. For example, the average assessment in Year 3 might be 40 cents, made up of 2 or 3 different assessments for different categories. While this Plan is currently built on the concept of a single assessment level, CARE retains the ability to adopt a differential assessment over the course of this Plan if it is deemed to be in the best interest of achieving the goals of the Plan and the requirements of the statute. Both the Advisory Committee and CalRecycle would be consulted to provide input on such an approach, should CARE elect to move forward with development of a differential assessment model. In addition, CARE may also consider hosting a public stakeholder workshop and/or a targeted mill/retailer participant workshop to solicit broader input on the potential implications, benefits, or challenges with adopting such an approach. CARE will summarize stakeholder feedback obtained through such activities prior to adopting such a model and will follow other decision-making processes outlined in this plan including providing a rationale for adoption if enacted.

#3 SUBSIDIES

Motion 3.1

The Committee recommends that a resubmitted Plan needs to define how CARE will determine highest recyclability and describe how it will ensure that the subsidies will incentivize recycling of these carpet materials. If CARE were to adopt a consumer rebate system, the Committee would consider that as an alternative for meeting the statutory requirements of the law to incentivize the highest recyclability.

CARE Response: CARE incorporates its response to related Motion 1.1 above regarding the approach to highest recyclability. In response to CalRecycle’s May 15, 2018 decision, CARE has taken steps in its draft Plan to further define highest recyclability and to ensure subsidies and grants incentivize recycling of those materials and are otherwise aligned with the statute. The statute does not allow for a consumer rebate system as an “alternative” for meeting statutory requirements, and this recommendation is thus not feasible to implement.
#4 SOURCE REDUCTION

Motion 4.1

The Committee recommends rewriting the source reduction section of the Plan to include quantifiable and measurable activities addressing design for recycling. The source reduction section should also adhere to the waste management hierarchy defined in Public Resources Code Section 40051 and source reduction definition in Public Resources Code Section 40196.

CARE Response: CARE agrees with the recommendation that the Plan’s discussion of source reduction of post-consumer carpet must adhere to applicable statutory provisions, and the revised discussion in the draft Plan does so as explained therein. CARE agrees to revisit and further expand the text as warranted, including additional explanation of measures addressing design for recycling that is outside the scope of the source reduction requirement of the Carpet Stewardship Laws.

#5 Convenient Collections

Motion 5.1

The Committee recommends that CARE, upon receipt of the convenience collection study, will share, meet and discuss the results and the potential for revisions to the Plan with the Advisory Committee.

CARE Response: CARE accepts this recommendation. Once the study is complete and has been reviewed with Cascadia and CalRecycle, CARE will schedule time with the Advisory Committee to share results and implications for any Plan changes and seek AC input before implementation.

#6 Budget

Motion 6.1

The Committee recommends that CARE provide clarification and descriptions for the budget in line with CalRecycle’s recommendation to provide justification for allocations.

CARE Response: CARE accepts this recommendation and is responding to CalRecycle’s May 15 decision referenced in this recommendation and will be providing additional economic information in its Plan regarding the budget allocations.
SPC Response to Advisory Committee Recommendations

March 16, 2018

The Sustainable Planning Committee (SPC) has reviewed and discussed in detail each of the 21 recommendations made by the Advisory Committee (AC). This document will present CARE's response to each recommendation and corresponding intent for incorporation into the new draft Plan as prescribed by statute.

Priority #1: Assessment Cap

RECOMMENDATION 1-1: The Committee recommends removing all caps on assessments, to be consistent with PRC 42972 (c)(1).

SPC POSITION: CARE agrees with this recommendation. Reference to caps will be removed from the Plan. The Plan is fully and aggressively funded as presented and as required by law. CARE will be monitoring financial performance monthly and should an unanticipated funding concern arise in the future, CARE will timely meet with CalRecycle to discuss a plan of action.

Priority #2A: Subsidy Guarantees

RECOMMENDATION 2a-1: The Committee recommends increased guaranteed subsidies and incentives from the current 12-month period to a minimum of 24 months. If remaining time of Stewardship Plan is less than 24 months, guarantees shall exist for the remaining duration of the current approved plan.

SPC POSITION: CARE understands and appreciates the concerns of the AC, the recycling community and the carpet manufacturers regarding duration of guarantees. At the same time, Plan flexibility is paramount to being able to respond to market changes. Therefore, CARE will implement a 1-year moratorium of any subsidy reductions, which will result in a 2-year guarantee for the first two years of the Plan commencing July 1, 2018. As an example, under this commitment the first time CARE could offer a 1-year notice of change would be July 1, 2019, for implementation July 1, 2020, if a reduction were considered appropriate. It should be noted in the current version of the Plan, there are subsidy reductions in later years, which may or may not be implemented depending on progress on achieving program goals. Given the significant uncertainties of the recycling markets, it is not feasible for CARE to project more than 6 months in advance with any degree of confidence. Therefore, we must have enough flexibility to respond to market changes.
RECOMMENDATION 2a-2: The Committee recommends that prior to changing subsidies and incentives, the Stewardship Organization must include specific information about the changes.

**SPC POSITION:** CARE accepts this recommendation and any planned reduction or elimination in subsidies will be detailed in an email to the recycling community 12 months in advance (and consistent with CARE’s response to 2a-1). To the extent such changes are incorporated as part of the scope of the approved Plan, CARE will inform the Advisory Committee and CalRecycle of intended changes prior to implementation. Should changes be required and are not considered part of the approved Plan scope, CARE will discuss with the CalRecycle to justify and gain agreement on the proper path forward.

Priority #2b: Tiered Payouts

RECOMMENDATION 2b-1: The Committee recommends the Stewardship Organization clarify units (column C), time frame, and entity/organization/facility and remove any $0 payout level from any payout tier as shown on page 168 of version 60 or any subsequent draft of the Stewardship Plan entitled Tiered Payouts.

**SPC POSITION:** CARE agrees and will reset the Tier 4 subsidies to a non-zero level which varies for each category as appropriate. Clarification of all requirements will appear in the draft Plan when submitted.

RECOMMENDATION 2b-2: The committee recommends the Stewardship Organization consider increasing the material levels (column C) so as to encourage increased processing capacity, as shown on page 169 of version 60 or any subsequent draft of the Stewardship Plan entitled Tiered Payouts.

**SPC POSITION:** CARE has evaluated this recommendation and agrees to increase the Tier increments to double the increment to 2M pounds/month/category for each facility producing the recycled output product eligible for subsidy.

RECOMMENDATION 2b-3: The committee recommends segregating out the nylon-6, nylon-66, along with non-nylon fibers/polymers, with the exception of PTT and PET, which will be grouped together, when considering subsidies.

**SPC POSITION:** CARE agrees with this recommendation and will separate output by polymer type noting that the polymers PET and PTT will remain combined as polyester.

Priority #2c: Recycled Output Plateaus

RECOMMENDATION 2c-1: The Committee recommends the Stewardship Organization and CalRecycle increase the recycling goals beyond the 26% goal set for 2022.

**SPC POSITION:** The ability to arbitrarily set goals this far in advance is a well-established challenge. As Section 42972.2(b) of AB 1158 states: “No sooner than January 1, 2020, and no less frequently than every three years thereafter, the department shall review and may adjust the recycling rate and program goals set forth in paragraph (2) of subdivision (a) of Section 42972, based on information included in carpet stewardship plans and annual reports, other information provided by
carpet stewardship organizations, and economic and any other relevant information.” Since the statute stipulates that CalRecycle will set goals after January 1, 2020, this target is open to adjustment consistent with the provision of the statute.

It is also worthy of note that AB 1158 states: “SEC. 4. Section 42972.2 is added to the Public Resources Code, to read: 42972.2. (a) The Legislature hereby declares that it is the goal of the state to reach a 24-percent recycling rate for postconsumer carpet by January 1, 2020, and to meet or exceed that rate continually thereafter.” CARE’s proposed 26% by 2022 is consistent with the language of the statute.

CARE has set a goal of 26% by January 1, 2023. Since statute stipulates that CalRecycle will set goals after January 1, 2020, this goal could be adjusted consistent with this provision of the statute.

Priority #2D: Other Subsidy (Incentive) Guarantees

RECOMMENDATION 2d-1: This committee recommends the Stewardship Organization’s plan needs to describe a cogent process for setting subsidies and making incentive payments.

SPC POSITION: CARE agrees and will modify the appropriate section(s) of the draft Plan to include additional information to what is already explained in the current draft Plan.

RECOMMENDATION 2d-2: The committee recommends that the Stewardship Organization guarantee renewal of any existing 6-month pilot for an additional six months.

CARE POSITION: CARE agrees with this recommendation. Upon approval of the Plan, CARE will extend any pilot currently in place or expired for an additional six months. Any pilot set to be implemented post-approval is already in the Plan for a full six months.

Priority 3: Differential Assessments

RECOMMENDATION 3.1: The Committee recommends to the Stewardship Organization to implement a system of differential assessments based on the material of the face fiber type that correlates to the subsidy required to have it be economically recycled with adequate time for implementation within 12 months of the approved plan.

SPC POSITION: CARE has already committed to evaluate the implementation of differential assessments. However, it is essential to recognize this is a very complex subject and there are strong opinions on all sides. CARE expects to reach a recommendation on differential assessments within 12 months of Plan approval. However, timing will be a challenge from an implementation perspective at the retail level and requires a focused and intense communication outreach effort. Normal assessment changes require 90 days to notice and implement. Differential assessment changes necessary at the retail level will take longer and thus, a minimum of six months is needed to make such a change in the assessment system. Retail level changes involve reprogramming of point-of-purchase computer systems and education of the salesforce. The negotiation of contracts, reprogramming, testing and upload to go live requires careful planning and realistic timing for
retailers. Multiple stakeholders will find this challenging. Therefore, it is not feasible to implement such a recommendation within 12 months.

Priority 4: Collections

**RECOMMENDATION 4.1:** The Committee recommends the Stewardship Organization consider increasing collector/sorter incentives for sold (resourced) post-consumer broadloom carpet for CARE “qualified” collectors/sorters in California to ensure adequate collections to meet the recycling requirements and goals of the plan.

**SPC POSITION:** CARE agrees to consider increasing CSEs incentives if/when PCC supply becomes an issue. As has been stated by the CSEs many times, “we can collect all you need.” The challenge is the creation of more capacity to produce additional products and markets to buy those products. As demand for material goes up, competition and the need for collection will expand. However, it is essential to focus resources on outlets to pull material through the supply chain at this time. The addition of an added collection incentive will not contribute to increasing the recycling rate in California. Thus, given the unnecessary additional cost, it is not feasible nor prudent (impractical) to implement such a subsidy increase at this time.

**RECOMMENDATION 4.2:** The Committee recommends the collection narrative needs to describe specific activities included in the proposed collection program budget expenditures and include cost factors used to project expenditures.

**SPC POSITION:** CARE agrees and will incorporate more detail in the Plan regarding the collection system cost elements and projections.

Priority 5: Recyclability / Table 4

**RECOMMENDATION 5.1:** The Committee recommends the Stewardship Organization change the Ranking Range for the Scoring in Table 4, page 34 of the proposed plan (version 60), be changed to +/- 10-point scale.

**SPC POSITION:** CARE agrees with this recommendation and the scale will be revised.

**RECOMMENDATION 5.2:** The Committee recommends replacing the criteria on Table 4 of the proposed plan with the following criteria:

1. Toxic components*
2. Ease of deconstruction*
3. Safely recycled for all carpet layers into similar or higher material performance*
4. Cost-effectiveness*
5. Energy-saving*
6. Identification of resin type*
7. Ease of collection and processing*
8. Extent of subsidy required
9. Reusability
10. Recycled into a new secondary product
11. Markets available for products
   a. focusing on closed-loop recycling that can be recycled into carpet
   b. non-carpet closed loop (can be recycled again)
   c. downcycle (1-time)
12. Potential for high yield

**SPC POSITION:** CARE generally agrees to use the criteria in Table 4, but will drop Criterion 1, Toxic Components, since the composition of all carpets is basically the same and none contain any chemicals required for listing under Federal or State regulations.

CARE will add back available volume as a critical criterion in consideration of accomplishing a 24% Recycling Rate by January 1, 2020.

As was abundantly clear during Advisory Committee deliberations, there is a deep lack of understanding of the concept of highest recyclability and how to rate various carpets against any criteria. The SPC has also spent many hours over multiple meetings examining the topic. Therefore, CARE will make the stated modifications to this table and ranking scale using our best collective input. At the same time the Plan will propose to study this subject further to gain a better understanding of what this means and how it may be implemented to guide subsidy and grant funding per statute and in support of reaching Recycled Rate goals.

**Priority 6: Program Budget Issues**

**RECOMMENDATION 6.1:** The committee recommends that the Stewardship Organization increase the transparency in the budget relative to meeting the goals of the program.

**SPC POSITION:** CARE agrees and will share more detail on the 2018 budget and out-year forecasting process, however we cannot guarantee specific details. CARE must maintain latitude and flexibility to divert funds to those areas which have the greatest impact in achieving program goals. While large categories will likely trend close to budget, funds will be flexible enough to be deployed as needed.

**RECOMMENDATION 6.2:** The committee recommends that the Stewardship Organization develop a policy to ensure competition, such as identifying spending thresholds in selecting consultants and vendors, while allowing for sole source awards of contracts, all under an adopted policy.

**CARE POSITION:** CARE agrees with this recommendation and will commit to putting in place a formal policy by the end of 2018.

**Priority 7: Processing Capacity and California Preference**

**RECOMMENDATION 7.1:** The committee recommends that once the 24% recycling goal is reached, the Stewardship Organization develop a more aggressive California preference in the subsidy and grant program than what is in the proposed plan (version 60).
**SPC POSITION**: CARE agrees with this recommendation and feel it is adequately covered in the current Plan. Keep in mind, the v60 draft Plan gives an “example” of how the funds might be adjusted. The timing and size of any changes would be driven by consideration of delivering on the Plan goals. CARE also believes it is essential that DGS step up on SABRC and the State begin to contribute to market demand for products containing PCC. This will help justify the continued expansion of in-state capacity and our ability to meet Plan goals.

**Priority 8: Grants**

**RECOMMENDATION 8.1**: The committee recommends the Stewardship Organization shall increase the total annual grant amount and in-turn increase the individual grant amounts to encourage in-state processing and manufacturing and downstream use of PCC recycled commodities.

**SPC POSITION**: CARE will re-evaluate grant amounts on an annual basis via CARE’s annual reports to CalRecycle in light of Program performance. CARE feels we have developed a solid and fully funded Plan based on capacity expansion underway or planned by future program participants, including those in the State. Part of the strategy is to front load grants in 2018 and 2019 to drive capacity, product, and market expansion. This Plan is funded to hit and exceed 24% by January 1, 2020 as required by statute. There were numerous financial models run to try and balance the expansion of the recycling rate, in State capacity growth, declining carpet sales in CA, and the increasing assessment. As a result, if recyclers do as they have told us and as we’ve verified in multiple contacts, this Plan will meet or exceed targets.

Also, it is not feasible to increase grants beyond the allocation presented in this fully funded Plan at this time, because Grant Cycle 2 is in full swing in anticipation of Plan approval so that grant funds may be dispersed as soon after Plan approval as possible. Recycling community expectations have been established as communications of funding levels, cycle times and submissions targets are already published.

**Priority 9: Education & Outreach**

**RECOMMENDATION 9.1**: The committee recommends the Stewardship Organization re-allocate funding to prioritize state approved apprenticeship programs for training of apprentices and journey level installers in proper carpet recycling practices.

**CARE POSITION**: CARE agrees with this recommendation and will take action to support these activities per statute. It should be noted installers have been a major focus area of CARE and considerable time and effort has been expended, along with California taxpayer money, to develop training modules along with installer videos in both English and Spanish. All this material has been well received with the videos having been viewed more than 240,000 times. Considerable effort has been made to reach out to installers through tabling events at supply houses as a key leverage point for contact. CARE also recognizes the big differences between commercial and residential flooring installers. The latter represents approximately 70% of all carpet sold in the state and is the first point of contact for collections. CARE will work with Steve Belong and other appropriate contacts on effective delivery of this education and training and to leverage the excellent foundation in place.
RECOMMENDATION 9.2: The committee recommends that the budget for Education and Outreach would not exceed 3.5% of the total budget and would be mainly directed to the following:

1. Installer outreach
2. Retailer outreach
3. Market development
4. State and local governments

CARE POSITION: CARE agrees with this recommendation and will implement same effective with the 2019 budget cycle as 2018 contracts are in place.

RECOMMENDATION 9.3: The committee recommends the Stewardship Organization works with carpet manufacturers to participate at the regional sales events in the state of California to better educate retailers on carpet recycling.

CARE POSITION: CARE agrees with this recommendation and has opened discussion with several carpet mills to accomplish this recommendation. It is likely we would start with a few pilot efforts to determine what format works best for large versus medium versus small mills, since all have different formats, timelines, objectives and constraints. CARE will report on the results in our annual reports beginning with the 2019 report as such events are usually associated with the beginning of the year or early spring.
Attachment 6. California Carpet Recycling Collection Site Maps

As of February 2018

Note: CARE estimates that 70% of all carpet sold in California is sold in the top 10 counties by population. Approximately 187 of the total collection/drop-off sites are in the top 10 counties.

This attachment includes two collection maps:

- Carpet Recycling Drop-off Locations
- Carpet Collection Sites per County (a flyer used in E&O activities)

The table following the maps is an analysis of all 58 counties including population figures to estimate what percentage of the state’s population is covered by drop-off sites. On a raw population basis, approximately 92% of the population of California lives in a county with one or more drop off sites. As an example, Los Angeles County, with a population of 9.95 million, 25% of the total population, has 46 sites. The vast majority of installations are done by professional installers where convenient drop-off is quite different from that of an ordinary citizen, few of which are DIY carpet installers.

These statistics will be updated and refined as part of the convenient collection study proposed in the Plan.
Carpet Recycling Drop-off Locations (map)

California Carpet Stewardship Program
Carpet Recycling Drop-Off Locations / Lugares donde llevar alfombras para reciclar

Carpet America Recovery Effort (CARE) is building a network of drop-off locations for used carpet in California, including sites serviced by CARE as well as independent sites. For most up-to-date listings visit www.CarpetRecovery.org/CA.

Carpet America Recovery Effort (CARE) está formando una red de lugares donde se puedan dejar alfombras para reciclar, ya sea en lugares atendidos por CARE así como en participantes independientes. Para ver la lista más actualizada de lugares, visite www.CarpetRecovery.org/CA.

Drop-Off Locations by County

Before you visit: Contact drop-off location to confirm participation, business hours, types of carpet accepted and identification required.

Antes de su visita: Comuníquese con el lugar donde llevaría las alfombras para confirmar que participan, el horario de atención al público, los tipos de alfombras que aceptan, así como la identificación que requieren.

ALAMEDA COUNTY
Fremont Recycling & Transfer
41107 Bay Park Road
Fremont, CA 94538
510-259-2424

CALIFORNIA COUNTY
Rock Creek Solid Waste Facility & Landfill
13010 Rancho Rd
Martinez, CA 94553
925-286-4483

CONTRA COSTA COUNTY
Contra Costa Waste Service
13010 Shingle Rd
Pittsburg, CA 94565
925-438-1800

DEL NORTE COUNTY
Del Norte County Transfer Station
1526 S-Carver Ave
Prairie Grove, CA 95551
707-465-1100

California Carpet Stewardship Program
An Initiative of CARE, Carpet America Recovery Effort

Version 97 | page 296
Carpet Recycling Drop-off Locations (list)

California Carpet Stewardship Program
Carpet Recycling Drop-Off Locations / Lugares donde llevar alfombras para reciclar

EL DORADO COUNTY
El Dorado Disposal/Waste Connections
4500 Three Way
Placerville, CA 95667
530-295-2688

HUMBOLDT COUNTY
Hawthorne Street Transfer Station
1805 West Hawthorne Street
Eureka, CA 95501
707-267-6060

IMPERIAL COUNTY
Imperial Landfill
101 E Robinson Road
Imperial, CA 92251
760-323-7180

INYO COUNTY
Bishop Sunland Landfill
110 Sanandaj Indian Reservation Road
Bishop, CA 93514
760-872-4288

KERN COUNTY
Bakersfield Sanitary Landfill
2901 Bakersfield Road
Bakersfield, CA 93307
661-862-8950

KING COUNTY
Robinson's Interiors
2024 1st Avenue
Huntington, CA 92647
562-582-2600

LAKE COUNTY
Lake County Waste Solutions
236 Soda Bay Road
Lakeport, CA 95453
707-274-6482

LAC fruit COUNTY
American Reclamation
4500 Doheny Street
Los Angeles, CA 90009
310-552-4000

Carpet Solutions
1700 Marquay Avenue
Carbon, CA 95616
310-886-3899

LA fiber
1929 Vine Avenue
Ventura, CA 93004
323-227-6027

MARIN COUNTY
Marin Resource Recovery Center
3050 Balboa Street
San Rafael, CA 94903
415-485-5064

MARICOPA COUNTY
Maricopa Landfill, Composting and Recycling Center
550 North 48th Avenue
Phoenix, AZ 85019
602-220-3140

MENDOCINO COUNTY
Solid Waste Systems
511 Taylor Avenue
Ukiah, CA 95482
707-234-6410

MONTANO COUNTY
SUNSET TRANSFER STATION
12111 Sunset Avenue
Salinas, CA 93904
831-454-3150

NAPA COUNTY
Desert View Transfer Station
888 Desert View
American Canyon, CA 94503
707-258-9000

Napa Recycling & Waste Services
1801 Napa Street
American Canyon, CA 94503
707-256-3500

ORANGE COUNTY
Sunset Transfer Station
13225 Sunset Avenue
Irvine, CA 92606
949-654-8562

PLACER COUNTY
CLEAR Carpet Recycling
3900 Venture Drive
Lincoln, CA 95648
916-899-3669

PLACER COUNTY cont.
Eastern Regional Landfill
500 Cañada Road
Truckee, CA 96161
530-581-6900

Western Placer Waste Management Authority
3811 Edgewood Road
Roseville, CA 95661
916-846-3529

PLUMAS COUNTY
Dellaker Transfer Station
21800 Industrial Way
Butte, CA 95922
530-884-2149

SACRAMENTO COUNTY
Florin Perkins Public Disposal Site
4201 Florin Perkins Road
Sacramento, CA 95826
408-560-4360

SAN BERNARDINO COUNTY
Advance Disposal Co.
17105 Nueva Street
Riverside, CA 92534
760-865-2177

West Valley MRF and Transfer Station
13373 Napa Street
Fontana, CA 92335
909-899-5920

SAN DIEGO COUNTY
A-1 Planet Recycling
15101 Greenview Street
Oceanside, CA 92057
619-254-2745

SAN FRANCISCO COUNTY
Recology San Francisco
510 Tomlinson Avenue
San Francisco, CA 94114
415-330-3400

SAN JOAQUIN COUNTY
Loveland Transfer Station
1222 E. Lorel Avenue
Lodi, CA 95240
209-362-1700

SAN JOAQUIN COUNTY cont.
North County Recycling Center & Sanitary Landfill
12701 S. Ranney Lane
Lodi, CA 95240
209-267-6606

SAN LUIS OBISPO COUNTY
Cold Canyon Landfill
2600 Carpenter Canyon Road
San Luis Obispo, CA 93401
805-548-8322

SAN MATEO COUNTY
Blue Line Transfer, Inc.
5001 Jamie Court
South San Francisco, CA 94080
650-899-3912

South Bay Recycling
333 Bently Drive
San Carlos, CA 94070
650-922-8505

SANTA BARBARA COUNTY
Marlboro Industries
1101 Rincon Street
Santa Barbara, CA 93101
805-963-1812

SANTA CLARA COUNTY
Green Waste Recovery
625 Dollar Street
San Jose, CA 95112
408-983-9458

GreenWaste Carpet Recycling
541 North 13th Street
San Jose, CA 95112
408-983-9858

SANTA CRUZ COUNTY
City of Santa Cruz Resource Recovery Facility
600 Dunlevy Lane
Santa Cruz, CA 95060
831-420-6270

Ben Lomond Transfer Station
9850 River Road
Ben Lomond, CA 95005
831-334-3951

SANTA CRUZ COUNTY cont.
Buena Vista Landfill
12701 S. Ranney Lane
Lodi, CA 95240
209-362-1700

SANTA ROSA COUNTY
Industrial Carting
3111 Santa Rosa Avenue
Santa Rosa, CA 95407
707-543-5910

SUTTER COUNTY
Recover Sutter
3001 Levee Road
Marysville, CA 95901
530-600-9113

TAMALPAIS COUNTY
Tehama County
1000 Pine Road
Red Bluff, CA 96080
530-231-7190

TENNESSEE COUNTY
The Floor Store
30th Street
Wesleyville, CA 90068
530-452-6600

TUOLUMNE COUNTY
Cal Sierra Transfer Station
10990 Industrial Drive
Sonora, CA 95370
209-532-1103

VENTURA COUNTY
Del Norte Regional Recycling and Transfer Station
111I Del Norte Boulevard
Oxnard, CA 93036
805-382-5000

YOLO COUNTY
Yolo County Landfill
1800 County Road 298
Woodland, CA 95695
530-644-4027

CarpetRecovery.org/CA
@CarpetRecycle
Note: the following data is current as of October 2017.

**Map Key**
- Counties with green background have at least one drop-off site.
- Counties with white background have no drop-off sites.
### COLLECTION SITES ACROSS CALIFORNIA COUNTIES

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<tr>
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Notes:

This sheet is accurate as of December 10, 2017 and provides a more comprehensive analysis.

www.us-places.com/California/population-by-county.htm

% Population Covered: 92%
## Collection Sites In California Counties

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</tr>
<tr>
<td>22 Mariposa County</td>
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<tr>
<td>23 Mendocino County</td>
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</tr>
<tr>
<td>24 Merced County</td>
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<td>1</td>
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<tr>
<td>25 Modoc County</td>
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<tr>
<td>26 Mono County</td>
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<td>1</td>
</tr>
<tr>
<td>27 Monterey County</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>28 Napa County</td>
<td>2</td>
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<tr>
<td>29 Nevada County</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>30 Orange County #3</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>31 Placer County</td>
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<td>2</td>
</tr>
<tr>
<td>32 Plumas County</td>
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<td>1</td>
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<tr>
<td>33 Riverside County #4</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>34 Sacramento County #8</td>
<td>18</td>
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<tr>
<td>35 San Benito County</td>
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<td>0</td>
</tr>
<tr>
<td>36 San Bernardino County #5</td>
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<td>2</td>
</tr>
<tr>
<td>37 San Diego County #2</td>
<td>36</td>
<td>1</td>
</tr>
<tr>
<td>38 San Francisco County</td>
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<td>1</td>
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<tr>
<td>39 San Joaquin County</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>40 San Luis Obispo County</td>
<td>1</td>
<td>1</td>
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<tr>
<td>41 San Mateo County</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>42 Santa Barbara County</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>43 Santa Clara County #6</td>
<td>20</td>
<td>1</td>
</tr>
<tr>
<td>44 Santa Cruz County</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>45 Shasta County</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>46 Sierra County</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>47 Siskiyou County</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>48 Solano County</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>49 Sonoma County</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>50 Stanislaus County</td>
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<td>1</td>
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<td>51 Sutter County</td>
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<td>0</td>
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<td>52 Tehama County</td>
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<td>1</td>
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<td>53 Trinity County</td>
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<td>54 Tulare County</td>
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<td>55 Tuolumne County</td>
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<td>56 Ventura County</td>
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<td>1</td>
</tr>
<tr>
<td>57 Yolo County</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>58 Yuba County</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

*Green = top 10 counties ranked by population*
## Attachment 7. Summary of Subsidies and Pilots

At the time of this Plan, the Program provides the following 15 subsidies, including 3 new pilot subsidies. More information on the pilot and new subsidies is included following the summary table.

<table>
<thead>
<tr>
<th>#</th>
<th>Subsidy</th>
<th>Eligible</th>
<th>Payout</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reporting incentive</td>
<td>Collector/sorters</td>
<td>$1,000/period</td>
<td>Incentive paid per period; not subject to guarantee timeline</td>
</tr>
<tr>
<td>2</td>
<td>Broadloom collection (broadloom whole carpet shipped and sold for recycling)</td>
<td>Collector/sorters*</td>
<td>2 cents/lb. (payable for broadloom carpet only; not payable for reuse pounds; not payable for carpet tile reuse or recycling)</td>
<td>Paid on pounds of PCC broadloom collected, sorted, shipped, and sold for recycling; previous quarterly and annual limits on payouts are discontinued as of January 1, 2018</td>
</tr>
<tr>
<td>3</td>
<td>Tile collection (carpet tile shipped and sold for reuse or recycling) (pilot)</td>
<td>Collector/sorters†</td>
<td>5 cents/lb. (payable for carpet tile only; payable for both reuse and recycled pounds; not payable for broadloom reuse or recycling)</td>
<td>Paid on pounds of PCC tile collected, sorted, shipped, and sold or donated for reuse or recycling; initiated as a 6-month pilot program effective January 1, 2018</td>
</tr>
</tbody>
</table>

* Processors who also act as collector/sorters are eligible for collector/sorter broadloom whole carpet shipped and sold for recycling subsidy.

† Processors who also act as collector/sorters are eligible for carpet tile collection subsidy for carpet tile shipped and sold/donated for reuse or recycling.
<table>
<thead>
<tr>
<th>#</th>
<th>Subsidy</th>
<th>Eligible</th>
<th>Payout</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td><strong>REUSE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Tile reuse</td>
<td>Collector/sorters</td>
<td>10 cents/lb. (pounds not</td>
<td>For materials shipped and sold or donated for reuse</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Processors</td>
<td>eligible for 2-cent</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>collection subsidy)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Broadloom reuse</td>
<td>Collector/sorters</td>
<td>10 cents/lb. (pounds not</td>
<td>For materials shipped and sold or donated for reuse</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Processors</td>
<td>eligible for 2-cent</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>collection subsidy)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td><strong>PROCESSING (Tier 1)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Tile recycling</td>
<td>Processors</td>
<td>10 cents/lb.</td>
<td>For carpet tile only</td>
</tr>
<tr>
<td>7</td>
<td><strong>Type 1 recycled output</strong></td>
<td>Processors</td>
<td>10 cents/lb.</td>
<td>For RO with less than 25% ash content</td>
</tr>
<tr>
<td></td>
<td>(ash content less than 25%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td><strong>Highest Recyclability Voluntary Incentive</strong></td>
<td>Processors</td>
<td>5 cents/pound</td>
<td>For type 1 recycled output from carpet tile or broadloom meeting</td>
</tr>
<tr>
<td></td>
<td>(new)</td>
<td></td>
<td></td>
<td>highest recyclability criteria, currently limited to N6 and N66</td>
</tr>
<tr>
<td>#</td>
<td>Subsidy</td>
<td>Eligible</td>
<td>Payout</td>
<td>Notes</td>
</tr>
<tr>
<td>----</td>
<td>---------------------------------------------</td>
<td>---------------</td>
<td>-------------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>9</td>
<td><strong>Commercial broadloom</strong></td>
<td>Processors</td>
<td>Additional 2 cents/lb. (paid in addition to Type 1 RO, 10 cents/pound payout; RO derived from commercial sources must meet Type 1 ash content threshold of &lt;25%)</td>
<td>Suspended pending procedure review &amp; definition development (see page 136). Anticipated launch as 6-month pilot beginning January 1, 2019 (Q4); subject to additional documentation providing that feedstock is purchased from an independent collector or a signed contract for a project is on file</td>
</tr>
<tr>
<td>10</td>
<td><strong>Type 2 recycled output</strong></td>
<td>Processors</td>
<td>3 cents/lb.</td>
<td>For RO in excess of 25% ash content</td>
</tr>
<tr>
<td></td>
<td>(ash content above 25%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td><strong>PC4</strong></td>
<td>Processors</td>
<td>17 cents/lb.</td>
<td>Application areas that qualify under review; subject to specifications and testing protocols to be developed</td>
</tr>
<tr>
<td></td>
<td>(post-consumer carpet calcium carbonate)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**RECYCLED CONTENT MANUFACTURING (Tier 2)**

| 12 | **Manufacturer non-nylon** recycled products: PET/PTT | Manufacturers | 25 cents/lb. | Must contain Type 1 RO; only actual weight of Type 1 RO is eligible |
| 13 | **Manufacturer non-nylon** recycled products: PP    | Manufacturers | 25 cents/lb. | Must contain Type 1 RO; only actual weight of Type 1 RO is eligible |
# Subsidy | Eligible | Payout | Notes
--- | --- | --- | ---
14 Manufacturer nylon 6 & 66 recycled products: N6, N66 | Manufacturers | 10 cents/lb. | Initiated as a 6-month pilot, effective October 1, 2018; only actual weight of Type 1 RO is eligible. N66 to be added upon implementation of Plan, estimated January 1, 2019.

SUBSIDIES DISCONTINUED (AS OF JANUARY 1, 2018)

<table>
<thead>
<tr>
<th>#</th>
<th>Subsidy</th>
<th>Eligible</th>
<th>Payout</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>x</td>
<td>CAAF</td>
<td>Processors</td>
<td>3 cents/lb.</td>
<td>Eliminated effective January 1, 2018</td>
</tr>
<tr>
<td>x</td>
<td>Kiln</td>
<td>Processors</td>
<td>3 cents/lb.</td>
<td>Eliminated effective January 1, 2018</td>
</tr>
</tbody>
</table>

Details of New Subsidies

Commercial Broadloom Subsidy (Pilot)

- Eligible Subsidy Participants: Tier 1 Processors
- Pilot currently suspended pending procedure review and definition development (see page 136): Anticipated new commencement date: January 2019.
- Subsidy Amount: 2 cents per pound (in addition to regular Type 1 subsidy)
- Requirements:
  - Subsidy is payable on Type 1 commercial broadloom (to be defined) RO only;
  - 2 cents are paid in addition to Type 1 RO subsidy;
  - Carpet tile is not eligible for commercial subsidy;
  - Carpet must come from a commercial establishment (not residential)
- Only source-separated commercial PCC is eligible; Processors are required to keep meticulous records on all commercial PCC received, including sources and weights of all received and processed commercial material, and maintain records subject to AUP review. Processor must source from a collector/sorter or have a contract from a commercial contractor or building manager to certify origin.
- If processor is also collecting commercial goods directly, it will be necessary to obtain a signed contract from project/site manager of commercial location to document sourcing.
- Payable only on pounds shipped/sold after – to be determined
- Subject to all other requirements of subsidy participants

- Subsidy start date: suspended pending procedure review and definition development to ensure adequate safeguards (for any commercial recycled broadloom – to be defined - output material processed/shipped/sold)

- Primary Data to be evaluated (subject to change):
  - Number of pounds of Commercial RO over period (by month)
  - Trend of pounds of Commercial RO over period (% increase/decrease)
  - Number of participating/interested processors; any new processors developing this market
  - Number/trends of pounds of whole commercial PCC sold by collector/sorters over period (increases/decreases by month)
  - Commercial PCC in inventory versus sold
  - Quality of RO; must meet Type 1 output qualifications,
  - Qualitative feedback from field: processing challenges, quality of loads, ability to separate/differentiate commercial PCC, processor markets for finished RO, feedback from any AUPs involving participating processors, collector/sorter feedback/ability to sell commercial, drop-off site feedback, etc.
Tile Collection Reuse/Recycle Subsidy (Pilot)

- Eligible Subsidy Participants: Collector/Sorters
- Pilot will commence January 2018
- Subsidy Amount: 5 cents per pound
- Requirements:
  - Subsidy is payable on Carpet Tile only;
  - Carpet Tile must be collected by a collector/sorter, sorted/shipped/sold for either Reuse or Recycling
  - For Tile Reuse: 5 cents are paid in addition to 10 cents payable for carpet tile reuse by collector/sorter;
  - For Tile Recycle: 5 cents are payable to collector/sorter; 10 cents are payable to Tier 1 processor once tile is recycled/shipped/sold
  - Collector/sorters are required to keep meticulous records on all tile received, including sources and weights of all received and sorted/sold/donated material, and maintain records subject to AUP review
  - Payable only on pounds shipped/sold after January 1, 2018
  - Subject to all other requirements of subsidy participants
- Subsidy start date: January 1, 2018 (for any carpet tile sorted/shipped/sold during the period beginning January 1)
- Primary Data to be evaluated (subject to change):
  - Number of pounds of Tile Reuse & Tile Recycle over period (by month)
  - Trend of pounds of Tile Reuse & Tile Recycle over period (% increase/decrease)
  - Number of participating/interested collector/sorters; any new collector/sorters developing this market
  - Carpet Tile in inventory versus shipped/sold
  - Quality of tile; issues with sorting/sale/donation, other
  - Qualitative feedback from field: sorting challenges, quality of material, ability to identify sources, ability to identify markets for reuse/recycle, shipping logistics, feedback from any AUPs involving participating collector/sorters, feedback from receiving processors, drop-off site feedback, etc.
Highest Recyclability Voluntary Incentive

- **Eligible Subsidy Participants**: Processors
- **Effective January 2019**
- **Subsidy Amount**: 5 cents per pound
- **Requirements**:
  - Subsidy is payable on Carpet Tile or Carpet Broadloom composed of polymers meeting highest recyclability criteria only, currently limited to: nylon 6 or nylon 66;
  - Processors are required to keep meticulous records on all nylon 6 and nylon 66 received, including sources and weights of all received and processed/shipped/sold material, and maintain records subject to AUP review
  - Payable only on pounds shipped/sold after January 1, 2019
  - Subject to all other requirements of subsidy participants
- **Subsidy start date**: January 1, 2019 (for any N6 or N66 carpet tile or broadloom processed/shipped/sold during the period beginning January 1)
- **Primary Data to be evaluated (subject to change)**:
  - Number of pounds of shipped/sold over period (by month)
  - Trend of pounds of shipped/sold over period (% increase/decrease)
  - Number of participating/interested processors; any new processors developing this market
  - Number/trends of pounds of N6 and N66 Type 1 RO sold by Tier 1 Processors over period (increases/decreases by month)
  - N6 and N66 in inventory versus sold
  - Quality of RO; issues with qualification; other
  - Qualitative feedback from field: processing challenges, markets for finished products, feedback from any AUPs involving participating processors, feedback from Tier 2 manufacturers/ability to sell RO, collector/sorter feedback/ability to sell bales, etc.
Tier 2 Nylon 6 Subsidy (Pilot)

- Eligible Subsidy Participants: Tier 2 Manufacturers
- Pilot commenced October 2017; Full subsidy to be effective January 1, 2019
- Subsidy Amount: 10 cents per pound
- Requirements:
  o Subsidy is payable on Type 1 nylon 6 RO only used in secondary product manufacturing;
  o Pellets are considered a finished secondary product, eligible for Tier 2 subsidies
  o Manufacturers are required to keep meticulous records on all nylon 6 received, including sources and weights of all received and processed material, any yield losses, and maintain records subject to AUP review
  o Additional testing requirements are anticipated to ensure only N6 is reported.
  o Payable only on pounds shipped/sold after October 1, 2017
  o Subject to all other requirements of subsidy participants
- Subsidy start date: October 1, 2017 (for any products manufactured using nylon 6 Type 1 RO processed/shipped/sold during the period beginning October 1, 2017)
- Primary Data to be evaluated (subject to change):
  o Number of pounds of shipped/sold over period (by month)
  o Trend of pounds of shipped/sold over period (% increase/decrease)
  o Number of participating/interested manufacturers; any new Tier 2 manufacturers developing this market
  o Number/trends of pounds of nylon 6 Type 1 RO sold by Tier 1 Processors over period (increases/decreases by month)
  o Nylon 6 in inventory versus sold
  o Quality of products; issues with qualification; other
  o Qualitative feedback from field: processing challenges, markets for finished products, feedback from any AUPs involving participating manufacturers, processor feedback/ability to sell nylon 6 RO, collector/sorter feedback/ability to sell nylon 6 bales, new products developed/under development during period, etc.
Tier 2 Nylon 6 Subsidy (Pilot)

- Eligible Subsidy Participants: Tier 2 Manufacturers
- Subsidy effective January 2019
- Subsidy Amount: 10 cents per pound
- Requirements:
  - Subsidy is payable on Type 1 nylon 66 RO only used in secondary product manufacturing;
  - Pellets are considered a finished secondary product, eligible for Tier 2 subsidies
  - Manufacturers are required to keep meticulous records on all N66 received, including sources and weights of all received and processed material, any yield losses, and maintain records subject to AUP review
  - Additional testing requirements are anticipated to ensure only N66 is reported.
  - Payable only on pounds shipped/sold after January 1, 2019
  - Subject to all other requirements of subsidy participants
- Subsidy start date: January 1, 2019 (for any products manufactured using N66 Type 1 RO processed/shipped/sold during the period beginning January 1, 2019)
- Primary Data to be evaluated (subject to change):
  - Number of pounds of shipped/sold over period (by month)
  - Trend of pounds of shipped/sold over period (% increase/decrease)
  - Number of participating/interested manufacturers; any new Tier 2 manufacturers developing this market
  - Number/trends of pounds of N66 Type 1 RO sold by Tier 1 Processors over period (increases/decreases by month)
  - N66 in inventory versus sold
  - Quality of products; issues with qualification; other
  - Qualitative feedback from field: processing challenges, markets for finished products, feedback from any AUPs involving participating manufacturers, processor feedback/ability to sell N66 RO, collector/sorter feedback/ability to sell N66 bales, new products developed/under development during period, etc.
Attachment 8. Description of Subsidy Flow and Stacking

Participants may be eligible for one or more incentives and/or subsidies on a single pound of material, based on the particular activity or activities being performed. A few examples are provided below to illustrate how subsidies may be stacked as it moves through the system. Note: these subsidies are subject to change as the program evolves.

**Broadloom CarpetReuse**

1. A collector/sorter who collects, sorts, ships and sells/donates sorted broadloom carpet for reuse is not eligible to receive the 2-cent/pound broadloom collection subsidies on reused broadloom carpet.

2. The collector/sorter (in some cases may also serve as a processor) who sells/donates sorted broadloom carpet for reuse is eligible to receive 10-cent/pound reuse subsidy.

Total potential payout on Broadloom Carpet Reuse pounds:

= 0 cents + 10 cents

= 10 cents/pound
Carpet Tile Reuse

1. A collector/sorter who collects, sorts, ships and sells/donates sorted carpet tile for reuse is not eligible to receive the 2-cent/pound broadloom collection subsidy.

2. The collector/sorter who collects, sorts, ships and sells/donates sorted carpet tile for reuse is eligible to receive the Pilot 5-cent/pound Tile Collection subsidy.

3. The collector/sorter (in some cases may also serve as a processor) who sells/donates sorted carpet tile for reuse is also eligible to receive 10-cent/pound reuse subsidy.

Total potential payout on Carpet Tile Reuse pounds:

= 0 cents + 5 cents + 10 cents

= 15 cents/pound
Carpet Tile Recycling

1. A collector/sorter who collects, sorts, ships and sells/donates sorted carpet tile for reuse is not eligible to receive the 2-cent/pound broadloom collection subsidy.

2. A collector/sorter who collects, sorts, ships and sells/donates sorted carpet tile for recycling is eligible to receive the 5-cent/pound Pilot Tile Collection subsidy.

3. The receiving processor (not the collector/sorter) of this material is then eligible to receive 10-cent/pound on the finished tile recycled output yielded from carpet tile when it is shipped and sold to a manufacturer (generally anticipated to be 80-100% of whole carpet weight received).

4. If the carpet tile is composed of nylon 6 or nylon 66, the processor of this material is eligible to receive an additional 5-cent/pound voluntary highest recyclability incentive on the finished tile recycled output yielded from this material when it is shipped and sold to a manufacturer.

Total potential payout on Carpet Tile Recycling pounds:

= 0 cents + 5 cents + 10 cents + 5 cents

= 20 cents/pound
Non-Nylon (PET/PTT/PP) Broadloom – Collected/Sorted, Recycled, and Manufactured

1. A collector/sorter who collects, sorts, ships and sells sorted broadloom pounds for recycling is eligible to receive 2-cents/pound broadloom collection subsidy on that material regardless of fiber type.

2. The receiving processor of this material (in some cases a processor may also serve as a collector/sorter) is then eligible to receive another 10-cent/pound on the finished Type 1 recycled output yielded from this material when it is shipped and sold to a manufacturer (generally anticipated to be 30-40% of whole carpet weight received).

3. The receiving non-nylon manufacturer is eligible to receive 25-cent/pound on the feedstock used in the production of their recycled products, once those products are shipped and sold. (Paid out on input pounds of non-nylon PCC content sold, not final weight of the finished product.)

Total potential payout on Non-Nylon Broadloom pounds:

= 2 cents + 10 cents + 25 cents

= 37 cents/pound
Nylon (N6) Broadloom – Collected/Sorted, Recycled, and Manufactured

1. A collector/sorter who collects, sorts, ships and sells sorted broadloom pounds for recycling is eligible to receive 2-cent/pound broadloom collection subsidy on that material.

2. The receiving processor of this material (in some cases a processor may also serve as a collector/sorter) is then eligible to receive another 10-cent/pound on the finished Type 1 recycled output yielded from this material when it is shipped and sold to a manufacturer (generally anticipated to be 30-40% of whole carpet weight received).

3. If the processed PCC is composed of nylon 6 the processor of this material is eligible to receive an additional 5-cent/pound voluntary highest recyclability incentive on the finished recycled output yielded from this material when it is shipped and sold to a manufacturer.

4. The receiving nylon 6 manufacturer is eligible to receive the 10-cent/pound on the feedstock used in the production of their recycled products, once those products are shipped and sold. (Paid out on input pounds of nylon 6 PCC content sold, not final weight of the finished product.)

Total potential payout on Nylon 6 broadloom pounds:

= 2 cents + 10 cents + 5 cents + 10 cents

= 27 cents/pound
Nylon (N66) Broadloom – Collected/Sorted, Recycled, and Manufactured

1. A collector/sorter who collects, sorts, ships and sells sorted broadloom pounds for recycling is eligible to receive 2-cent/pound broadloom collection subsidy on that material.

2. The receiving processor of this material (in some cases a processor may also serve as a collector/sorter) is then eligible to receive another 10-cent/pound on the finished Type 1 recycled output yielded from this material when it is shipped and sold to a manufacturer (*generally anticipated to be 30-40% of whole carpet weight received*).

3. If the processed PCC is composed of nylon 66 the processor of this material is eligible to receive an additional 5-cent/pound voluntary highest recyclability incentive on the finished recycled output yielded from this material when it is shipped and sold to a manufacturer.

4. The receiving nylon 66 manufacturer is eligible to receive the 10-cent/pound on the feedstock used in the production of their recycled products, once those products are shipped and sold. (Paid out on input pounds of nylon 66 PCC content sold, not final weight of the finished product.)

Total potential payout on Nylon 66 broadloom pounds:

= 2 cents + 10 cents + 5 cents + 10 cents

= 27 cents/pound
Non-Nylon (PET/PTT/PP) Commercial Carpet Broadloom – Collected/Sorted, Recycled, and Manufactured:

PROGRAM CURRENTLY SUSPENDED

1. A collector/sorter who collects, sorts, ships and sells sorted broadloom pounds for recycling is eligible to receive 2-cent/pound broadloom collection subsidy on that material regardless of fiber type.

2. The receiving processor of this material (in some cases a processor may also serve as a collector/sorter) is then eligible to receive another 10-cent/pound on the finished Type 1 recycled output yielded from this material when it is shipped and sold to a manufacturer regardless of fiber type (generally anticipated to be 30-40% of whole carpet weight received).

3. If the processed PCC is derived from commercial broadloom material, the receiving processor of this material (in some cases a processor may also serve as a collector/sorter) is then eligible to receive an additional 2-cent/pound commercial broadloom subsidy on the finished commercial Type 1 recycled output yielded from this material when it is shipped and sold to a manufacturer (subject to other requirements under this Plan).

4. In the case of nylon 6, the receiving manufacturer is eligible to receive subsidies on the Type 1 N6 feedstock used in the production of their Tier 2 recycled products, once those products are shipped and sold. (Paid out on input pounds of nylon 6 PCC content sold, not final weight of the finished product.)

Total potential payout on **Non-Nylon (PET/PTT/PP) Commercial Broadloom** pounds:

\[= 2 \text{ cents} + 10 \text{ cents} + 2 \text{ cents}\]

\[= 14 \text{ cents/pound}\]
Nylon 6 (N6) Commercial Carpet Broadloom – Collected/Sorted, Recycled, and Manufactured:

PROGRAM CURRENTLY SUSPENDED

1. A collector/sorter who collects, sorts, ships and sells sorted broadloom pounds for recycling is eligible to receive 2-cent/pound broadloom collection subsidy on that material regardless of fiber type.

2. The receiving processor of this material (in some cases a processor may also serve as a collector/sorter) is then eligible to receive another 10-cent/pound on the finished Type 1 recycled output yielded from this material when it is shipped and sold to a manufacturer regardless of fiber type (*generally anticipated to be 30-40% of whole carpet weight received*).

3. If the processed PCC is derived from commercial broadloom material, the receiving processor of this material (in some cases a processor may also serve as a collector/sorter) is then eligible to receive an additional 2-cent/pound commercial broadloom subsidy on the finished commercial Type 1 recycled output yielded from this material when it is shipped and sold to a manufacturer (*subject to other requirements under this Plan*).

4. If the processed PCC is composed of nylon 6 the processor of this material is eligible to receive an additional 5-cent/pound voluntary highest recyclability incentive on the finished recycled output yielded from this material when it is shipped and sold to a manufacturer.

5. The receiving manufacturer is eligible to receive subsidies on the Type 1 N6 feedstock used in the production of their Tier 2 recycled products, once those products are shipped and sold. (*Paid out on input pounds of nylon 6 PCC content sold, not final weight of the finished product.*)

Total potential payout on **Commercial Nylon 6 Broadloom** pounds:

= 2 cents + 10 cents + 2 cents + 5 cents + 10 cents

= 29 cents/pound
Nylon 66 (N66) Commercial Carpet Broadloom – Collected/Sorted, Recycled, and Manufactured: PROGRAM CURRENTLY SUSPENDED

1. A collector/sorter who collects, sorts, ships and sells sorted broadloom pounds for recycling is eligible to receive 2-cent/pound broadloom collection subsidy on that material regardless of fiber type.

2. The receiving processor of this material (in some cases a processor may also serve as a collector/sorter) is then eligible to receive another 10-cent/pound on the finished Type 1 recycled output yielded from this material when it is shipped and sold to a manufacturer regardless of fiber type (generally anticipated to be 30-40% of whole carpet weight received).

3. If the processed PCC is derived from commercial broadloom material, the receiving processor of this material (in some cases a processor may also serve as a collector/sorter) is then eligible to receive an additional 2-cent/pound commercial broadloom subsidy on the finished commercial Type 1 recycled output yielded from this material when it is shipped and sold to a manufacturer (subject to other requirements under this Plan).

4. *If the processed PCC is composed of nylon 66 the processor of this material is eligible to receive an additional 5-cent/pound voluntary highest recyclability incentive on the finished recycled output yielded from this material when it is shipped and sold to a manufacturer.

5. The receiving manufacturer is eligible to receive subsidies on the Type 1 N66 feedstock used in the production of their Tier 2 recycled products, once those products are shipped and sold. (Paid out on input pounds of nylon 66 PCC content sold, not final weight of the finished product.)

Total potential payout on Commercial Nylon 66 Broadloom pounds:

= 2 cents + 10 cents + 2 cents + 5 cents* + 10 cents

= 29 cents/pound
PC4 – Collected/Sorted, Recycled, and Manufactured

1. A collector/sorter who collects, sorts, ships and sells sorted broadloom pounds for recycling is eligible to receive 2-cents/pound broadloom collection subsidy on that material.

2. The receiving processor of this material (in some cases a processor may also serve as a collector/sorter) is then eligible to receive another 17-cent/pound on the finished PC4 recycled output yielded from this material when it is shipped and sold to a manufacturer (generally anticipated to be 30-40% of whole carpet weight received).

3. The receiving manufacturer is not currently eligible for subsidies.

Total potential payout on PC4 pounds:

= 2 cents + 17 cents

= 19 cents/pound

Type 2 Recycled Output (any fiber type) – Collected/Sorted, Recycled, and Manufactured

1. A collector/sorter who collects, sorts, ships and sells sorted broadloom pounds for recycling is eligible to receive 2-cent/pound broadloom collection subsidy on that material.

2. The receiving processor of this material (in some cases a processor may also serve as a collector/sorter) is then eligible to receive another 3-cent/pound on the finished Type 2 recycled output yielded from this material when it is shipped and sold to a manufacturer (generally anticipated to be 40-60% of whole carpet weight received).

3. The receiving manufacturer is not currently eligible for subsidies.

Total potential payout on Type 2 pounds:

= 2 cents + 3 cents

= 5 cents/pound
Cover Letter for Attachment 9 Update

September 24, 2018

Scott Smithline, Director
CalRecycle
1001 I St
Sacramento, CA 95814

Re: UPDATE to Attachment 9 of 5-Year Plan

Dear Director Smithline:

CARE would like to submit the attached update to Attachment 9 of the 5-Year Plan. This update was created to address many of the questions CalRecycle had about the original version of the attachment, which was accurate as written as an example. CARE agrees with Staff that making the standalone attachment align with the changes made in the resubmission makes good sense. The new Attachment 9 version is now fully aligned with the latest budget. CARE has worked to make the tables much more readable and added a new table, per staff suggestion, that looks at the 5-year analysis all in the context of the Attachment 9 and amplified the narrative as well to add more clarity. Nothing in the revised Attachment 9 changes any of the content of the Plan as submitted on August 17, 2018.

Sincerely,

Robert Peoples, Ph.D.
Executive Director
Carpet America Recovery Effort (CARE)
100 South Hamilton Street
Dalton, Georgia 30722

cc: Cynthia Dunn, Clark Williams, Sustainable Planning Committee (SPC)
Description of Models

The CARE Economic Models are being developed into comprehensive planning, prediction and subsidy facilitation tools. The objectives of the CARE Economic models are geared towards enabling the CARE program administrator and planner to be pro-active in anticipating changes in macroeconomic conditions, energy markets, petrochemical input prices, and final carpet market sales and PCC discards. By having convenient access to historic economic indicators and market projections that are determinants of relative price levels for virgin fibers, Post-Industrial (PI) material prices, and post-consumer carpet (PCC) discards, the user is better equipped to formulate incentivizing subsidies. The models provide the program administrator with scenario modeling capabilities.

The models are in various stages of development and reliability and confidence varies across the models. All model projections are obviously tied to underlying assumptions as starting points which may have profound effects on the resulting projections. Assumptions are based on best available information and experience at the time a model is run.

Attachment 9A. Description of Economic Model

Economic Model

The Economic Model was built and refined by Louis Berger Company and paid for with Program funds. This is a forward-looking model. Accordingly, the information contained within the various work components or “modules” has some direct or indirect relation to markets or inputs that can potentially influence virgin material prices, PI Material prices and PCC fiber discard relative prices. Factors that change relative prices and influence supply and demands for various materials are important for CARE’s ability to set subsidy levels and to anticipate the best timing for a subsidy adjustment. The model is set up using monthly data. This data is the highest frequency available, captures seasonal patterns, and can be integrated with, and summed into CARE’s quarterly planning and other management financial cash flow models. Ultimately, the model provides a key input projection (under various market conditions), for the PI price that PCC prices compete against. The model determined PI price is one of several key inputs in the subsidy determination formula (that is linked to other variables) within the model, to be used in subsidy determination to stimulate PCC fiber recovery.
Structure

The Economic Model is divided into five work components or “modules” that relate to key aspects of proactive tracking and scenario building. For example, economic growth nationally and in California, housing activity, carpet sales by market segment, and PCC discards are all represented within the modules. The Model collates information to allow the user to stay up to date on key trends and can be used to build hypothetical planning scenarios that test impacts on virgin fiber prices, and post-industrial (PI) material prices that compete with recyclable PCC prices. The model also has equations that allow the user to predict the recovered PCC fibers quantities that will be reported to CARE and to simulate recovery scenarios based on projected relative prices. This function allows the user to anticipate recovered fiber quantities likely reported to CARE based on changing market and economic conditions. The modules contained within the model offer a control point location for accessing key data and projections that CARE managers can use for tracking purposes and to anticipate factors that influence Post-Consumer Carpet (PCC) discards and quantity / recovered and reported to CARE by stakeholder members.

- **Module 1** contains data on U.S. GDP and Global Energy Markets (Supply / Demand) Key price benchmarks. The user can continually track energy price trends that determine prices for petrochemical virgin materials, and Post-Industrial Prices and PCC Recyclable Prices. With this information, the user can be quickly informed about energy prices (and outlooks) over the next several months or years and not be caught “reacting” when prices move but can anticipate such movements. In addition, the user will appreciate how high oil prices impact the economy and demand conditions for consumer goods and carpet sales based on this structure.

- **Module 2** contains data on the California economy and housing markets influencing carpet demand and sales. It provides historical and projected California GDP data, macroeconomic and housing growth indicators. The purpose of the module is to provide historic growth background and to highlight the most recent and official expectations for future California growth and construction activity, and to track housing markets on a quarterly and monthly basis.

- The objective of **Module 3** is to predict California carpet sales and discards at a quarterly aggregate level, prior to focusing on constituent fiber types, reported as recovered (Module 4 is the focus of fiber breakdowns by type). Module 3 makes use of existing data (both
privately subscribed, and publicly available) to predict carpet sales and post-consumer carpet discards, in pounds, by using CARE’s formula. The advantage of Module 3 is that it incorporates actual carpet mill production histories and trends and seasonal factors on a monthly basis, to both supplement and compare with CARE’s quarterly sales and discards projections. The predictions can be incorporated or used for planning purposes for understanding seasonal patterns over a year.

- **Module 4** is the heart of the economic model and integrates price, macroeconomic data, and California industry data within a monthly format for scenario building and projection purposes. For example, it allows the user to run different fiber price scenarios based on crude oil price forecasts. The model provides simulation abilities to forecast fiber prices, and post-consumer carpet discard quantities (pounds) reported to CARE for planning and subsidy/grant determination purposes. A series of dependent equations located within the worksheet provides the user with the ability to forecast virgin material prices, post-industrial material prices and recyclable prices for nylon 6, and nylon 66, PET, and polypropylene monthly. Module 4’s user dashboard also links the projected relative prices (for virgin fibers and recyclables) to CARE recovery predictive equations that predict the pounds of recovered fibers reported from CARE members. The dashboard also has a table that splices the historically reported fibers (converted to monthly format) to the projected fiber quantities out to year-end 2017.

- **Module 4a** labeled contains price histories and historic relationships between dependent input prices and outputs across many business cycles and energy price environments. This information is also used to create some predictive equations and confidence intervals for fiber material prices, including Post-Industrial fiber prices that PCC is competing against.

- **Module 4b** is the subsidy facilitator determination worksheet. This information has a template that is linked to user provided inputs for crude oil prices that determines what the projected Post-Industrial Price (PI) will be, within the subsidy determination equation. The subsidy formula is based on starting with Conversion Cost Prices (Supplied by Industry for anonymous valued added processing technologies that can’t be traced to owners) and subtracts Post-Industrial price (PI). It then adds 10 cents (e.g., an estimate of the price differential required between the post-industrial and post-
consumer material price. This element is based on a long history of what is required to have post-consumer material displace post-industrial material in the marketplace). Finally, the equation adds a profit margin – “A”. “A” represents a return on investment for the recycling company that incentivizes or piques their interest in engaging in recycling of carpet. In the worksheet, “A” is determined based on applying a markup to Conversion Cost (CC) units that the user can alter based on profit margin expectations per fiber.

The economic model is fully documented, and the most recent draft was updated September 8, 2017.

CARE continues work to develop a better understanding of how to use these models and is working to better integrate model outputs for all four models: Economic Model, Cost Conversion Model, Financial Model and the Subsidy Justification Model. To that end, an Integrated Modeling Task Force has been appointed.
Attachment 9B. Description of Financial Model

The financial model is a second-generation model incorporating a tiered subsidy approach. Developed internally by CARE and in collaboration with Aprio, this model allows for a variety of input parameters based on assumptions regarding recycled output performance and a variety of expenses including grants, salaries, education and outreach, contractor services, technical assistance, accounting and legal expenses, CalRecycle administrative fees, collection costs, etc.

Key assumptions required for the model are:

- Estimated sales on new carpet into California. This estimate may be informed by current sales trends for which the program has 7+ years of data and the economic model which attempts to forecast sales based on econometric analysis.

- Estimated recycled output pounds in each category being subsidized by the Plan. These estimated are informed by surveys, one on one dialog with recyclers, and experience gained over 15 plus years of CARE operation nationally and over 6 years of California-based experience.

CARE recognizes that the markets are generally volatile, but in recent years that volatility has increased due to a variety of factors, all of which have been elaborated in the 2016 California CARE Annual Report. However, more recently the China National Sword and larger governmental initiatives under a revised draft of GB 16487, “Environmental Protection Control Standards for Imported Wastes as Raw Materials.” These changes when integrated together are wreaking havoc with recycling commodity markets, both domestic and global. Such turmoil has been seen by CalRecycle directly in other recycling commodity markets as well as local and regional markets. In addition, growth in the supply of virgin polymers continues to put pricing pressure on recycled polymer plastics.

The model was designed to provide financial guidance on the costs associated with the program, in particular, to estimate the subsidy payments, general program and administrative expenses, and thus assessment requirements to fund Plan activities. CARE used a scenario analysis approach looking at various subsidy levels, recycled output pounds required to reach targets and different activated strategy elements. The model allows for a wide range of “what-if” scenarios to be evaluated and compared to
inform decision making under this Plan. Over the last 2.5 years, CARE has run more than 70 model scenarios in an effort to find the right balance to enable a successful program.

The Excel models are far too large to incorporate into this plan in their current form. In the summary model, rows can number 60 plus, and columns extend out to 130 plus since the analysis is designed to capture details on a monthly basis for 5 years with additional analysis interspersed, including actual pounds and dollars tracking vs. budget. In the detail (inclusive of individual recyclers) the rows can number much higher and currently are 124 while the and columns are 126-plus. Thus, a snapshot of a segment of the summary model is included below as an example as Table A9-1. The snapshot is for Q4 and year-end 2019. Note, columns F and I, row 108 shows the recycled output is programmed at 24% per the new AB 1158 goal. Also note, column M, row 117 is highlighted green. This feature of the model automatically turns red if the fund balance falls below the reserve criterion. As a reminder, the reserve was increased by 100% from one month to two months under this Plan.

It is also worth reminding the reader that the financial model cash balance calculation incorporates the starting fund balance carried forward from the prior Plan starting in January 2018. Why is this important? When one examines line 103 you will note the “cost per square yard” (sq. yd.). This cost per sq. yd. is a standalone calculation that looks at the total costs for that month, inclusive of all subsidies, incentives, program and administrative costs, and divides it by the total square yards of carpet sold that month. This gives a snapshot of what the assessment per square yard would need at be for that single point in time. However, in reality there is a prior balance in the fund that carries forward and can offset the costs to fund the Program (shown as Line 117). Since the Program carried a large balance into 2018, that balance funds the expenses. Once the assessment falls below the total expenses the fund balance will begin to decline. Thus, this 5-Year Plan is fully funded at 35 cents/sq. yd. over the full life of the Plan. Said another way, if there was no starting balance, the assessment would be significantly higher.

The Plan is fully funded under the current set of premises used to build the budget model. Table A9-2 shows the results or the full 5-Year Plan as described in the detailed example above.

One important point, the actual detailed model shows all companies at the individual collector/sorter, processor, and manufacturer level and their
expected recycled output pounds and subsidy dollars by month over the life of the Plan. This information is considered highly confidential business information by CARE and by those businesses that provided the information. Actual data and projected growth was revealed by Plan participants under the promise of confidentially. CARE takes that commitment very seriously. The Plan will speak to composite or aggregated data and uses the details to calculate those results.

CARE is happy to schedule a review meeting of the financial model for the Advisory Committee and/or CalRecycle at an appropriate time.
### TABLE A9-1: Example (Scenario #5: 72-6), 2019 Details

#### Notes for Table A9-1:

* This calculation uses the fund balance as of 1/1/2017 to begin calculation.

** This calculation uses the sq. yd. in row 102, above, multiplied by the current year assessment listed on the Parameters page.

*** If fund balance is greater than the reserve, then this is equal to current assessment per sq. yd.
### TABLE A9-2: 5-Year Summary (Scenario #5: 72-6), 2019–2022

<table>
<thead>
<tr>
<th>Scenario #5: 72-6</th>
<th>2018 Total</th>
<th>2019 Total</th>
<th>2020 Total</th>
<th>2021 Total</th>
<th>2022 Total</th>
<th>2023 Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Processed Fiber</strong></td>
<td>$4,490,443</td>
<td>$4,573,700</td>
<td>$4,656,957</td>
<td>$4,739,214</td>
<td>$4,821,471</td>
<td>$4,903,728</td>
</tr>
<tr>
<td><strong>Total Commercial Connections Income</strong></td>
<td>$4,490,443</td>
<td>$4,573,700</td>
<td>$4,656,957</td>
<td>$4,739,214</td>
<td>$4,821,471</td>
<td>$4,903,728</td>
</tr>
<tr>
<td><strong>1% Indirect Fee</strong></td>
<td>$4,490,443</td>
<td>$4,573,700</td>
<td>$4,656,957</td>
<td>$4,739,214</td>
<td>$4,821,471</td>
<td>$4,903,728</td>
</tr>
<tr>
<td><strong>Total Nylon 66</strong></td>
<td>$4,490,443</td>
<td>$4,573,700</td>
<td>$4,656,957</td>
<td>$4,739,214</td>
<td>$4,821,471</td>
<td>$4,903,728</td>
</tr>
<tr>
<td><strong>Total H2L Incentive</strong></td>
<td>$4,490,443</td>
<td>$4,573,700</td>
<td>$4,656,957</td>
<td>$4,739,214</td>
<td>$4,821,471</td>
<td>$4,903,728</td>
</tr>
<tr>
<td><strong>Total GL Incentive</strong></td>
<td>$4,490,443</td>
<td>$4,573,700</td>
<td>$4,656,957</td>
<td>$4,739,214</td>
<td>$4,821,471</td>
<td>$4,903,728</td>
</tr>
<tr>
<td><strong>Total Carpet &amp; Processor P/E</strong></td>
<td>$4,490,443</td>
<td>$4,573,700</td>
<td>$4,656,957</td>
<td>$4,739,214</td>
<td>$4,821,471</td>
<td>$4,903,728</td>
</tr>
<tr>
<td><strong>Total Processed &amp; Recycled</strong></td>
<td>$4,490,443</td>
<td>$4,573,700</td>
<td>$4,656,957</td>
<td>$4,739,214</td>
<td>$4,821,471</td>
<td>$4,903,728</td>
</tr>
<tr>
<td><strong>Total Monthly Expenses</strong></td>
<td>$31,241,707</td>
<td>$33,043,734</td>
<td>$34,845,761</td>
<td>$36,647,788</td>
<td>$38,449,815</td>
<td>$40,251,842</td>
</tr>
<tr>
<td><strong>Profit</strong></td>
<td>$30,000,000</td>
<td>$29,700,000</td>
<td>$29,400,000</td>
<td>$29,100,000</td>
<td>$28,800,000</td>
<td>$28,500,000</td>
</tr>
<tr>
<td><strong>Cost per sq. yd.</strong></td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>$0.00</td>
</tr>
<tr>
<td><strong>Recycled Output</strong></td>
<td>$99,480,000</td>
<td>$100,980,000</td>
<td>$102,480,000</td>
<td>$103,980,000</td>
<td>$105,480,000</td>
<td>$106,980,000</td>
</tr>
<tr>
<td><strong>Recycled Rate</strong></td>
<td>21.0%</td>
<td>21.0%</td>
<td>21.0%</td>
<td>21.0%</td>
<td>21.0%</td>
<td>21.0%</td>
</tr>
</tbody>
</table>

**Notes for Table A9-2:**
- *This calculation uses the fund balance as of 1/1/2017 to begin calculation.
- **This calculation uses the sq. yd. in row 102, above, multiplied by the current year assessment listed on the Parameters page.
- ***If fund balance is greater than the reserve, then this is equal to current assessment per sq. yd.
Attachment 9C. Description of Conversion Cost Model

Introduction

The conversion cost model (CCM) has been developed by Frank Endrenyi in collaboration with CARE and was funded by CARE. This brand-new model looks at the full details for a carpet recycling operation and allows great flexibility in inputs to generate true operational costs and profitability profiles for any operation. By examining a variety of existing and theoretical businesses using this tool, CARE can better understand and quantify the level of subsidy which may be necessary to ensure a viable business model and/or account for the activation cost for businesses to enter into new operational approaches. The CCM is adaptable and customizable and will work with or without subsidies. The CCM can be used to analyze existing business models or evaluate profitability of proposed business models. Activation costs refer to the incentive necessary for a business to switch to a new raw materials source, in this case PCC.

As an example, recent developments regarding the new N6 Tier 2 subsidy have recently been implemented. The economic model, in conjunction with the conversion cost model is currently at a stage where we have an initial degree of confidence that it can be refined and used to conduct what-if scenarios on price movement and differentials for virgin versus post-industrial versus recycled PCC polymers and materials. The conversion cost model along with dialog with recyclers, is how CARE arrived at the new 10 cents/lb. Tier 2 Nylon 6 subsidy.

The following table is an example of the CCM with example inputs and outputs. All cells in green are input cells which demonstrates the flexibility for adaptation to a wide variety of operational inputs.

The CCM includes the following components:

1. Input-Summary
   • All inputs

2. Process Calculations
   • Sales of all components
   • Raw materials costs
   • Input carpet volume
   • Output volume
• Rebates (subsidies)
• Packaging costs

3. Expenses
• Facilities
• Utilities
• Repairs & maintenance, parts, etc.
• Office and other expenses

4. Wages
• All direct and indirect labor

5. Financials
• Financial line items including profit or loss

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Carpet Weight Constituent Fields</td>
<td>2</td>
<td>Facilities</td>
<td>3</td>
<td>Material Balances</td>
<td>4</td>
<td>Yearly</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Face Wh.</td>
<td>24.00</td>
<td>36.00</td>
<td>48.00</td>
<td>60.00</td>
<td>72.00</td>
<td>84.00</td>
<td>96.00</td>
<td>Building Sq. Ft.</td>
</tr>
<tr>
<td>3</td>
<td>Total Wh.</td>
<td>57.00</td>
<td>50.00</td>
<td>61.00</td>
<td>65.00</td>
<td>68.00</td>
<td>70.00</td>
<td>69.00</td>
<td>Cost/Sq. Ft./Month</td>
</tr>
<tr>
<td>4</td>
<td>Gr. Face %</td>
<td>42.1%</td>
<td>44.1%</td>
<td>45.9%</td>
<td>47.6%</td>
<td>49.2%</td>
<td>50.7%</td>
<td>52.2%</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Gr. PP %</td>
<td>12.28%</td>
<td>11.8%</td>
<td>11.48%</td>
<td>11.11%</td>
<td>10.77%</td>
<td>10.45%</td>
<td>10.14%</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Net Face %</td>
<td>25.79%</td>
<td>27.46%</td>
<td>29.02%</td>
<td>30.48%</td>
<td>31.86%</td>
<td>33.13%</td>
<td>34.35%</td>
<td>Process H.P.</td>
</tr>
<tr>
<td>7</td>
<td>Net PP %</td>
<td>10.44%</td>
<td>10.08%</td>
<td>9.75%</td>
<td>9.44%</td>
<td>9.15%</td>
<td>8.88%</td>
<td>8.62%</td>
<td>Ave. Power Cost/KWH</td>
</tr>
<tr>
<td>8</td>
<td>Total Losses</td>
<td>8.36%</td>
<td>8.39%</td>
<td>8.61%</td>
<td>8.81%</td>
<td>9.00%</td>
<td>9.18%</td>
<td>9.35%</td>
<td>Water Withdrawal Cost</td>
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<tr>
<td>9</td>
<td>Calc. %</td>
<td>45.61%</td>
<td>46.07%</td>
<td>46.62%</td>
<td>47.27%</td>
<td>48.00%</td>
<td>48.81%</td>
<td>49.58%</td>
<td>Meter Charge/Month</td>
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<tr>
<td>10</td>
<td>Carpet Face Weight</td>
<td>26</td>
<td>Water Cost/Lb. of water</td>
<td>$0.00640</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Fiber Process Losses (Face and PP Back)</td>
<td>15%</td>
<td>Replacement Water</td>
<td>20%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Unusable PC Carpet Purchased</td>
<td>2%</td>
<td>Water Used (Lb./Day)</td>
<td>11,684.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Cost of Water/Month</td>
<td>$4,155.89</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Landfill Cost</td>
<td>$0.040</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Chemicals ($/mth.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Whole Carpet in (Lb./hr.)</td>
<td>6400</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Face Fibers Out (Lb./hr.)</td>
<td>1918</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Direct Plant Wage Costs ($/hr.)</td>
<td>19</td>
<td>Sales Revenues</td>
<td>20</td>
<td>Sales Per year</td>
<td>21</td>
<td>Sales Revenues</td>
<td>22</td>
<td>Sales Per year</td>
</tr>
<tr>
<td>24</td>
<td>Face Revenue per Lb.</td>
<td>25</td>
<td>Revenues</td>
<td>26</td>
<td>Revenues</td>
<td>27</td>
<td>Revenues</td>
<td>28</td>
<td>Revenues</td>
</tr>
</tbody>
</table>

California Carpet Stewardship Program
An Initiative of CALIF, Carpet America Recovery Effort

Version 97 | page 331
Summary

The new models are tools meant to enhance CARE’s ability to meet the goals of this Plan, better understand and quantify the potential cost relationships between individual incentive allocations and pounds of material flows, and to be more responsive to the changes that occur in the marketplace. These models are complex and require a deep understanding to use appropriately. As such the models are not open to distribution, but CARE will, upon request, provide a detailed review for CalRecycle and the Advisory Committee as required by AB 1158.

Because the models were developed in 2017, and the Conversion Cost Model in the second half of 2017, there is not yet sufficient data available to put forth in this Plan. However, throughout the life of the Plan, CARE will integrate the complementary outputs to guide decision-making and make adjustments to all three models as needed. To that end, CARE has formed an Integrated Modeling Task Force to work on the further refinement, integration, and use of these tools. The data compiled over the life of the Plan will be made available to CalRecycle and the Advisory Committee as required by AB 1158.
Attachment 10. Bates White Report and Responses

This attachment includes the following elements:


Attachment 10B. Response to Bates White Report from CalRecycle and Eunomia (8/22/2017)

Impact of CCSP Assessment Fees on California Carpet Shipments

Eric M. Gaier, PhD
Minjae Song, PhD
Bates White Economic Consulting

June 29, 2017
I. Introduction

Minor Bell Neal, PC, retained Bates White on behalf of the Carpet and Rug Institute (CRI) to analyze the impact on California carpet shipments of certain assessment fees levied under the California Carpet Stewardship Program (CCSP) administered by the Carpet America Recovery Effort (CARE).

CARE, a nonprofit organization, operates under the stated mission “to advance market-based solutions that increase landfill diversion and recycling of post-consumer carpet, encourage design for recyclability and meet meaningful goals as approved by the CARE Board of Directors.” CARE manages the CCSP, which is responsible for “meeting the requirements for carpet recycling set by California statute (AB 2398), signed into law by the governor of California on September 30, 2010.” The California stewardship law is regulated by CalRecycle, a California state agency.

Effective July 1, 2011, an assessment fee of $0.05 per square yard was levied on all carpet shipped to California. As shown in Figure 1, the assessment fee doubled to $0.10 per square yard effective April 1, 2015, and doubled again to $0.20 per square yard effective April 1, 2016. Effective January 1, 2017, the assessment fee increased further to $0.25 per square yard.

Figure 1: California Stewardship assessment fee schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Assessment fee (dollars per sq. yard)</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 1, 2011 – March 31, 2015</td>
<td>$0.05</td>
</tr>
<tr>
<td>April 1, 2015 – March 31, 2016</td>
<td>$0.10</td>
</tr>
<tr>
<td>April 1, 2016 – December 31, 2016</td>
<td>$0.20</td>
</tr>
<tr>
<td>January 1, 2017 – present</td>
<td>$0.25</td>
</tr>
</tbody>
</table>


Our analysis demonstrates that the assessment fee has had a significant, negative impact on California carpet shipments. In particular, our analysis demonstrates that the assessment fee reduced carpet shipments to California by more than 4% from April 2015 to March 2016 and by more than 6% through year-end 2016. As we explain further below, those figures represent conservative estimates of

---

3 Id.
the impact of the assessment fee because, due to a data limitation, it does not include any reductions in California carpet shipments associated with the initial implementation of the assessment fee from July 1, 2011, to March 31, 2015.

Our analysis also demonstrates that demand for carpet in California is highly sensitive to even small changes in price. In economic terms, the price elasticity of demand for carpet sold in California is approximately –3.5 to –3.8, which is highly elastic. Consequently, additional increases in the assessment fee would further reduce California carpet shipments significantly. For example, our elasticity estimates predict that an increase in the assessment fee from $0.20 to $0.40 would further reduce California carpet shipments by an additional 8.1% to 8.9%.

In the remainder of this report, we explain our analytic methodology and discuss our results.

II. Methodology

Our methodology is a standard application of a difference-in-differences regression model that quantifies the impact of the assessment fee by comparing changes in California carpet shipments with carpet shipments to the rest of the United States, while controlling for other factors that could impact carpet demand (e.g., housing permits, population, etc.). The difference-in-differences methodology is the “gold-standard” for evaluating the impact of any scientific or “natural” experiment in which a subgroup of the population is exposed to a treatment (here, the implementation of the assessment fee), while the remainder of the population is not. In scientific terms, the impact of the treatment is quantified by comparing the response of the treatment group (here, California) to the response of the control group (here, the rest of the United States).

Due to a limitation of the available data, we do not observe California carpet shipments prior to the first implementation of the assessment fee on July 1, 2011. However, our approach uses the natural experiment of the increases in the assessment fee—from $0.05 to $0.10 per square yard effective April 1, 2015, and from $0.10 to $0.20 per square yard effective April 1, 2016—to quantify the impact on California carpet shipments and estimate the elasticity of demand. Our methodology, therefore, provides a conservative estimate of the impact of the assessment fee because it does not include any reductions in California carpet shipments associated with the initial implementation of the assessment fee in July 2011.

In a purely scientific experiment (such as a clinical trial for a new drug), the treatment and control groups are selected randomly, such that there is no inherent need to control for other differences between the treatment and control group populations that might confound measurement of the impact
of the treatment. However, in a natural experiment, the treatment and control groups are not selected randomly, so it can be important to control for any other differences that vary between the groups. Indeed, if one could control for all other potential differences between the treatment and control groups, then any remaining differences after the natural experiment must be associated with the treatment itself.

A major benefit of the difference-in-differences methodology is that one does not need to control for factors that are the same for both the treatment and control groups. In our case, for example, one does not need to control for trends in the manufacturing costs of carpet because that is a factor that would be the same for carpet shipped to California and the rest of the United States. The only factors that need to be controlled for are those that may differ between California and the rest of the United States.

We controlled for other potential differences between California and the rest of the United States using several different standard approaches. In our first approach, we directly incorporated variables into our regression analysis that might impact carpet demand differently in California than in the rest of the United States. Importantly, as explained further below, in our review of numerous data series, we found no evidence of any systematic differences in trends between California and the rest of the United States for factors that might impact carpet demand. Nevertheless, in an abundance of caution, we included such variables under one set of regression specifications.

In our second approach, we used standard “fixed effects” for California and for each year and quarter of observed data. Fixed effects (also known as “indicator” or “dummy” variables) control for any systematic differences (even unknown to us) between California and the rest of the United States and for each year and/or quarter of the observed data. For example, if carpet demand is systematically lower in California than in the rest of the United States, our fixed effect for California would control for that difference. Similarly, if carpet demand were systematically lower in the fourth quarter of 2015, our fixed effect for that time period would control for that difference. Indeed, the only factors that could conceivably confound our estimates of the impact of the assessment fee are those that change differentially over time between California and the rest of the United States. However, based upon our research to date, we are not aware of any such factors other than changes in the assessment fee.

For each regression specification, the dependent variable is the natural logarithm of carpet shipments. Consistent with standard practices, we also used the natural logarithms of the continuous independent variables (e.g., housing permits) so that the regression output could be interpreted as percentage changes, not as changes in level.
III. Difference-in-differences calculations

We begin our discussion of the results with a simple comparison of quarterly carpet shipments to California and the rest of the United States during periods with different assessment fees. As shown in Figure 2, from 2011 Q3 through 2015 Q1—when the assessment fee was $0.05 per square yard—about 24.7 million square yards of carpet were shipped to California each quarter, compared to about 196.0 million square yards shipped to the rest of the United States. From 2015 Q2 through 2016 Q1—when the assessment fee doubled to $0.10 per square yard—average quarterly shipments to California declined by approximately 700,000 square yards, or about 2.7%. During the same period, average quarterly shipments to the rest of the United States increased by about 3.5 million square yards, or 1.8%. Hence, while California carpet shipments declined by 2.7%, carpet shipments to the rest of the United States increased by 1.8%. Thus, California carpet shipments were reduced by 4.5% compared to carpet shipments to the rest of the United States during this period.

Similarly, from 2016 Q2 through 2016 Q4—when the assessment fee doubled again from $0.10 to $0.20 per square yard—average quarterly shipments to California were reduced by 3.1% compared to their pre-2015-Q1 levels, while average quarterly shipments to the rest of the United States increased by 3.3%. Thus, California carpet shipments were reduced by 6.5% compared to carpet shipments to the rest of the United States through year-end 2016.

Figure 2: Difference in average quarterly shipments of carpet, by fee period and region

<table>
<thead>
<tr>
<th>Period</th>
<th>Average quarterly shipments (sq. yards)</th>
<th>Difference in percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>California</td>
<td>Rest of U.S.</td>
</tr>
<tr>
<td></td>
<td>Level</td>
<td>Percentage change from first period</td>
</tr>
<tr>
<td>2011 Q3 – 2015 Q1</td>
<td>24,738,900</td>
<td>--</td>
</tr>
<tr>
<td>2015 Q2 – 2016 Q1</td>
<td>24,065,883</td>
<td>-2.7%</td>
</tr>
<tr>
<td>2016 Q2 – 2016 Q4</td>
<td>23,960,471</td>
<td>-3.1%</td>
</tr>
</tbody>
</table>

Source: FloorFocus’ national carpet shipments and CARE’s California carpet shipments data.

The results shown in Figure 2 illustrate how carpet shipments to California were depressed relative to the rest of the United States at the same time that the assessment fee doubled from $0.05 to $0.10 and again from $0.10 to $0.20 per square yard. However, because these calculations do not control for other potential causes of depressed carpet demand in California, they do not, by themselves, establish a link between the assessment fee and the depressed demand. For example, it could be the case that
carpet demand in California was depressed because of a relative slowdown in residential housing construction compared to the rest of the United States.

To assess the likelihood that factors other than the assessment fee caused the depressed carpet demand in California, we analyzed numerous publicly available data series for both California and the rest of the United States. These data series included residential housing permits, personal income, population, and employment. However, none of those factors illustrated a pattern that would explain the depressed carpet demand in California compared to the rest of the United States during the relevant time period.

For example, as shown in Figure 3, residential housing permits in California and the rest of the United States continued an existing upward trend throughout the relevant time period. In fact, from 2015 Q2 through 2016 Q1—when the assessment fee was $0.10 per square yard—residential housing permits in California were approximately 29% higher than from 2011 Q3 through 2015 Q1—when the assessment fee was $0.05 per square yard. During the same time periods, residential housing permits in the rest of the United States increased by only 28%. Similarly, from 2016 Q2 to 2016 Q4—when the assessment fee was $0.20 per square yard—residential housing permits in California were approximately 37% higher than from 2011 Q3 through 2015 Q1. During the same time periods, residential housing permits in the rest of the United States increased by only 30%.

Thus, during the relevant time period, residential housing permits increased more quickly in California than in the rest of the United States. Hence, residential housing permits do not provide a plausible explanation for the reduced California carpet shipments.
Figure 3: Total housing permits in California and the rest of the United States

As shown in Figures 5–7 in the appendix, none of the other factors we analyzed provided any explanation for the reduced California carpet shipments. Indeed, personal income, population, and employment all followed a steadily increasing trend throughout the relevant time period for both California and the rest of the United States.

IV. Difference-in-differences regression results

As described in Section II, we estimated a standard difference-in-differences regression model to quantify the impact of the assessment fee by comparing changes in California carpet shipments with carpet shipments to the rest of the United States, while controlling for other factors that potentially impact carpet demand. We controlled for other factors using two different standard approaches. In our first approach, we directly incorporated variables addressing those factors into our regression analysis. In our second approach, we used standard “fixed effects” for California and for each year and quarter of our observed data. Fixed effects control for any systematic differences (even unknown
to us) between California and the rest of the United States and for each year and/or quarter of the observed data.

For each regression specification, the dependent variable is the natural logarithm of carpet shipments. Consistent with standard practices, we also used the natural logarithms of the continuous independent variables (e.g., housing permits) so that the regression output can be interpreted as percentage changes.

Figure 4 summarizes the results of our regression analysis. Specifications I and III implement the fixed-effects controls for potential differences between California and the rest of the United States, while Specifications II and IV incorporate data on residential housing permits and population directly. Specifications I and II implement year-specific (e.g., 2015) and quarter-specific (e.g., Q4) fixed effects, while Specifications III and IV implement unique fixed effects for every quarter (e.g., 2015 Q1).

For each regression specification, the variables of interest are the estimated coefficients on the indicator variables for California carpet shipments during the two treatment periods. These coefficients measure the impact of the carpet assessment fee relative to the benchmark period (i.e., 2011 Q3 through 2015 Q1) and are interpreted as the percentage change in California carpet shipments relative to the rest of the United States, controlling for all other factors in the regression model. For example, the estimated coefficient of −0.039 for the first treatment variable in regression 1 means that California carpet shipments declined by 3.9% during the period 2015 Q2–2016 Q1, relative to carpet shipments to the rest of the United States, controlling for all other factors in the regression model. Similarly, the estimated coefficient of −0.062 for the second treatment variable in regression 1 means that California carpet shipments declined by 6.2% by the end of 2016, relative to carpet shipments to the rest of the United States, controlling for all other factors in the regression model.

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4 Personal income and employment are nearly perfectly collinear with population. As a result, they could not be included in the regression model due to multicollinearity.
Figure 4: Regression results for the effect of assessment fee changes on California carpet shipments

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient estimate</td>
<td>Robust SE</td>
<td>Coefficient estimate</td>
<td>Robust SE</td>
</tr>
<tr>
<td>Effect of fee change from $0.05 to $0.10</td>
<td>-0.039**</td>
<td>-0.015</td>
<td>-0.042***</td>
<td>-0.015</td>
</tr>
<tr>
<td>Cumulative effect of fee change from $0.05 to $0.20</td>
<td>-0.062***</td>
<td>-0.015</td>
<td>-0.060***</td>
<td>-0.015</td>
</tr>
<tr>
<td>Dummy variable for CA</td>
<td>-2.071***</td>
<td>-0.008</td>
<td>-2.069***</td>
<td>-0.008</td>
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<tr>
<td>Log of housing permits</td>
<td>-0.077</td>
<td>-0.050</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Log of population</td>
<td></td>
<td></td>
<td>1.141***</td>
<td>-0.061</td>
</tr>
<tr>
<td>Constant</td>
<td>19.021***</td>
<td>-0.014</td>
<td>1.247***</td>
<td>-0.616</td>
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<tbody>
<tr>
<td>Year and Quarter</td>
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<td>42</td>
<td>44</td>
<td>42</td>
</tr>
<tr>
<td>Period fixed effects</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Implied Elasticity: | -3.59 | -3.48 | -3.82 | -3.53 |

Notes: *** p<0.01, ** p<0.05, * p<0.1. Source: Bates White analysis.

Across all four regression specifications, the estimated impact of the assessment fee on California carpet shipments from 2015 Q2 to 2016 Q1 ranged modestly from −3.9% to −4.8%. Similarly, the estimated cumulative impact of the assessment fee on California carpet shipments by year-end 2016 ranged modestly from −6.0% to −6.6%. As indicated by the asterisks, all of the estimated treatment coefficients were statistically significant (i.e., different from zero) at the standard 5% level of confidence or better. Indeed, all but one of the estimated treatment coefficients were statistically significant at the 1% level of confidence. This means that we can be quite confident that the assessment fee is depressing California carpet shipments.

The regression results can also be used to calculate an implied price elasticity of demand for carpet shipped to California. Price elasticity is an economic concept that quantifies the responsiveness of demand to changes in price. It is calculated as the percentage change in quantity demanded divided by the percentage change in price. Because price and quantity demanded are inversely related, price elasticities should be negative. Price elasticities between 0 and −1 are considered inelastic, meaning that quantity demanded is not particularly responsive to price. Price elasticities less than −1 (i.e.,

---

5 In economic terms, we are able to measure the slope of the demand curve for carpets shipped to California because the assessment fee shifts the supply curve without shifting the demand curve.
greater than 1 in absolute value) are considered elastic, meaning that quantity demanded is more responsive to changes in price.

As shown in Figure 4, California carpet shipments were reduced by 6.0%–6.6% when the assessment fee increased from $0.05 to $0.20. Using an average carpet price of $8.69 per square yard, the corresponding increase in price was approximately 1.7% (i.e., (0.20–0.05)/8.69). Hence, the estimated price elasticity ranges from –3.5 to –3.8 (i.e., –6.0/1.7 to –6.6/1.7), which is highly elastic.

Because demand for carpet in California is highly elastic, additional increases in the assessment fee would further reduce California carpet shipments significantly. For example, as shown in Figure 5 below, our elasticity estimates predict that an increase in the assessment fee from $0.20 to $0.25 would further reduce California carpet shipments by an additional 2.0%–2.2%. Similarly, an increase in the assessment fee from $0.20 to $0.40 would further reduce California carpet shipments by an additional 8.1%–8.9%. Importantly, these predicted reductions in California carpet shipments are in addition to the 6.0%–6.6% reductions we estimate are associated with the historical increases in the assessment fee from $0.05 to $0.20.

Figure 5: Predicted impact of additional fee increases on California carpet shipments

<table>
<thead>
<tr>
<th>Assessment fee (above $0.20)</th>
<th>Cumulative change in assessment fee</th>
<th>Predicted cumulative change in CA carpet shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0.20</td>
<td>$0.05</td>
<td>-2.0%</td>
</tr>
<tr>
<td>$0.30</td>
<td>$0.10</td>
<td>-4.0%</td>
</tr>
<tr>
<td>$0.40</td>
<td>$0.20</td>
<td>-8.1%</td>
</tr>
<tr>
<td>$0.50</td>
<td>$0.30</td>
<td>-12.1%</td>
</tr>
<tr>
<td>$0.60</td>
<td>$0.40</td>
<td>-16.2%</td>
</tr>
</tbody>
</table>

Note: Weighted average price input calculated over the 2015 Q2–2016 Q1 period. Source: Bates White analysis.

V. Conclusion

Our analysis demonstrates that the assessment fee has had a significant, negative impact on California carpet shipments. Our results using different regression specifications demonstrate a remarkable consistency of the estimated impact of the assessment fee program. For example, across all four regression specifications, the estimated impact of the assessment fee on California carpet shipments from 2015 Q2 through 2016 Q1 varied within a narrow range from –3.9% to –4.8%. Similarly, the
estimated cumulative impact of the assessment fee on California carpet shipments by year-end 2016 varied within a narrow range from −6.0% to −6.6%. These estimates are conservative and likely understate the true impact of the assessment fee because they do not incorporate any reductions in California carpet shipments associated with the initial implementation of the assessment fee in July 2011.

Our analysis also demonstrates that the demand for carpet shipped to California is highly sensitive to even small changes in price. In economic terms, the price elasticity of demand for carpet shipped to California is approximately −3.5 to −3.8, which is highly elastic. Consequently, additional increases in the assessment fee would further reduce California carpet shipments significantly.
VI. Appendix

Figure 6: Total personal income in California and the rest of the United States

Figure 7: Total population in California and the rest of the United States

Figure 8: Total employment in California and the rest of the United States

California Carpet Stewardship Programme: Review of Analysis by Bates White

Report to Changing Markets

Tanzir Chowdhury
Dr Chris Sherrington

22nd August 2017
Report for Stichting Changing Markets

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Disclaimer

Eunomia Research & Consulting has taken due care in the preparation of this report to ensure that all facts and analysis presented are as accurate as possible within the scope of the project. However no guarantee is provided in respect of the information presented, and Eunomia Research & Consulting is not responsible for decisions or actions taken on the basis of the content of this report.
Executive Summary

The Carpet and Rug Institute (CRI) funded a recently published study, by Bates White Economic Consulting, that investigated the impact of the California Carpet Stewardship Programme (CCSP) assessment fee (and the increases to date in the assessment fee) on California carpet shipments. The study suggests that the assessment fees have had a notable impact, reducing shipments, and that future possible increases in the fee will cause a further reduction in sales.

Eunomia Research & Consulting Ltd (Eunomia) was commissioned by Stichting Changing Markets to undertake an analysis of the Bates White study in order to provide a critique that considers whether or not the study is methodologically sound, and whether the claims made in the study can be substantiated based on the data presented and the analytical techniques applied.

Our critique of the Bates White study determines that it suffers from a number of methodological weaknesses. Accordingly, the claims made in the study cannot be substantiated on the basis of the data presented and the analytical techniques applied.
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<tr>
<td>2.0 Review of Bates White Study</td>
<td>1</td>
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</tbody>
</table>
1.0 Introduction

The Carpet and Rug Institute (CRI) funded a recently published study, by Bates White Economic Consulting, that investigated the impact of the California Carpet Stewardship Programme (CCSP) assessment fee (and the increases to date in the assessment fee) on California carpet shipments. The study suggests that the assessment fees have had a notable impact, reducing shipments, and that future possible increases in the fee will cause a further reduction in sales.

Eunomia Research & Consulting Ltd (Eunomia) was commissioned by Stichting Changing Markets to undertake an analysis of the Bates White study in order to provide a critique that considers whether or not the study is methodologically sound, and whether the claims made in the study can be substantiated based on the data presented and the analytical techniques applied.

The critiques of the Bates White study is presented in Section 2.0.

2.0 Review of Bates White Study

The Bates White study, entitled ‘Impact of CCSP Assessment Fees on California Carpet Shipments’, seeks to quantify the impact of the assessment fee on California carpet shipments. The authors consider the time period from April 2015 to March 2016, and subsequently through to the end of 2016. Their approach is to use a difference-in-differences regression model to compare changes in California carpet shipments with carpet shipments to the rest of the United States.

The authors state that:

Our analysis demonstrates that the assessment fee has had a significant, negative impact on California carpet shipments. In particular, our analysis demonstrates that the assessment fee reduced carpet shipments to California by more than 4% from April 2015 to March 2016 and by more than 6% through year-end 2016

However, the report suffers from a number of methodological weaknesses. Accordingly, the claims made in the study cannot be substantiated on the basis of the data presented and the analytical techniques applied.

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2 The authors note that due to apparent data limitations they did not consider any effects of the assessment fee in the period from July 1 2011 to March 31 2015.
The following issues have been identified:

• Exclusion of the price of carpets, or changes in the price of carpets, from the analysis:
  o The analysis considers the impact of the assessment fee on the demand for carpets, where demand will primarily depend on the price of carpets (including the assessment fee). The price of carpets could be different in California compared to the rest of the US, and/or the price could have changed differently in California compared to the rest of the US (by more than the assessment fee) over the period of analysis. However, no account is taken of the price of carpets.
  o A US price comparison website for carpets notes the following typical prices per square foot:
    ▪ Good quality - $1.00 to $5.00
    ▪ Better quality - $4.00 to $8.50
    ▪ Best quality - $7.70 to $17+
  o Taking $8 as a representative amount, on a square yard basis this equates to $72. Accordingly with the most recent increase in the assessment, to $0.25 per square yard, it adds 0.35% to the price of an average carpet. This proportion of overall price would be higher for cheaper, poor quality carpets, and lower for the best quality carpets.
  o All regressions and elasticity calculations should include the price of carpets.

• Exclusion of substitute products and other relevant factors that might affect demand:
  o The price of substitute products (i.e. alternative flooring types such as wood or stone) can change demand for carpet. This has not been included (or even mentioned) in the analysis.
  o People in California could prefer other flooring materials over carpet, which could negatively affect the demand for carpet.
  o Weather can affect the choice of flooring products, and the hot and humid weather in California could have a negative impact on demand for carpets.

• DID Regression Model:
  o For the Difference-in-differences (DID) estimation, if the price of carpets in California is different from, or changed to a greater or lesser extent than, the rest of the US, the entire analysis would be redundant. Even if the price levels and changes were the same between the regions, this should have been mentioned in the analysis.
  o Fixed effect dummy variables for California (designed to capture the differential impact on demand for California compared to the rest of the

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US), and fixed effect dummy variables for time-periods (designed to capture the differential impact on demand over different periods of time) were included. However, the model should have also included ‘interaction dummy variables’ (dummy for California multiplied by dummy for time-periods) to account for possible differential changes in demand between California and the rest of the US) over time.

- Adjusted R-squared values are reported to be 1 (which is the maximum possible value) – suggesting that the regression is a perfect fit for each variable for all data. This is not possible, and suggests that these R-squared values have been rounded up to 1, meaning that the relative explanatory power of different model specifications cannot be compared by the reader.

- Explanatory variables (population, housing permits, etc.) and fixed effect dummy variables were used in separate specifications. Including these in the same regression model would be desirable and would better explain the variations in the demand curve.

- Elasticity:
  - The implied elasticity calculation assumes that there is no shift in the demand curve between the start and end point of the elasticity calculation. However, the demand curve could have shifted because of a change in consumer preference, price and availability of substitutes (wood, tiles, laminated floors, etc.).
  - For the elasticity calculation to hold true, demand would have to be linear, meaning that the relationship between changes in price and quantity demanded varies at the same proportion for each level of price. However, it is more realistic to assume a non-linear demand function, i.e. quantity demanded changes disproportionately at different levels of price. In fact by using logarithmic transformation on their dependent and independent variables in the DID regression they have implicitly assumed the demand function to be non-linear. Therefore their elasticity calculation cannot possibly hold true.
  - For the implied elasticity calculation, the change in price between the start and end point was assumed to be just the change in assessment fee level, whereas the actual change in overall price could have been greater than the change in the assessment fee, making the implied elasticity calculation invalid.
August 25, 2017

Joe Yarbrough
President
Carpet and Rug Institute
100 S. Hamilton St.
Dalton, GA 30720

Re: CRI California Carpet Demand Study

Dear Joe:

At your request, we recently reviewed the August 18, 2017 comments offered by the CalRecycle staff to our June 29, 2017 report entitled “Impact of CCSP Assessment Fees on California Carpet Shipments.” We investigated the concerns raised by the staff and prepared specific responses, which are contained in the attached annotated document.

In short, based upon our investigation, we determined that the staff’s comments do not undermine our conclusions about the impact of the CCSP assessment fees on California carpet shipments. Most of the staff’s comments fall into one or more of the following categories:

- In many instances, the staff appear to misunderstand the purpose of our analysis. For example, the staff’s comments focus primarily on our estimate of the price elasticity of demand (PED) for carpet (incorrectly cited by the staff as -6.0 to -6.6). However, our PED estimate (-3.5 to -3.8) is a byproduct of our analysis of the impact of the assessment fees, not the main purpose. The staff further contend that we used an unorthodox methodology to estimate the PED. While we don’t agree with that characterization, the difference-in-differences (DID) methodology we used is the gold standard for evaluating the impact of natural experiments such as the changes in the assessment fee.

- The staff suggest other economic variables they assert should be included in our econometric model, including measures of commercial construction, carpet prices, personal income, and interest rates. However, in most instances, such data are not available on a state-by-state basis as would be required for our analysis. Moreover, none of these comments impact our fixed-effects regression specification where we use fixed effects to control for any potential confounding factors that do not trend differently in California compared to the rest of the United States.

- In some instances, the staff raise concerns that would actually increase our estimate of the impact of the assessment fee and PED. For example, the staff contend that our econometric model should also include measures of economic activity, such as personal income. As we explained in footnote
4 of our report, personal income is nearly perfectly collinear with population, such that the econometric model cannot reliably include both. However, substituting personal income for population increases our estimate of the impact of the assessment fees from approximately -6% to approximately -10%.

- Finally, the staff question whether our estimate of the price elasticity of demand is consistent with prior studies that have found lower demand elasticities, on the order of -0.90 to -0.95, for certain broad categories of floor covering products. Specifically, the prior studies cited by the staff appear to have estimated a PED for a broader set of floor covering products including carpets, linoleum, etc., as well as other textiles including drapes and linens. It is well understood in economics that broader product categories will have lower PED than specific products within those categories. The reason is that consumers have less ability to substitute away from broad product categories, such as floor coverings, than they do from a specific product, such as carpets. Thus, the results of the prior studies are actually consistent with our results (i.e., we find larger PED for carpets than the prior studies found for floor coverings).

In the attached annotated responses, we provide more detailed explanations of these and other points. In addition, as we explained in our initial report, our estimate of the impact of the assessment fees is conservative because it does not include the impact of the initial $0.05 assessment fee.

We hope that you find these responses helpful. Please let us know if you have any questions or would like to discuss any topic further.

Best regards,

[Signatures]

Eric M. Gaier, PhD
Partner
Minjae Song, PhD
Principal
CalRecycle Staff Review and Comments on
“Impact of CCSP Assessment Fees on California Carpet Shipments”

The Impact of the CCSP Assessment Fees on California Carpet Shipments (Report) was prepared by Bates White Economic Consulting on behalf of the Carpet and Rug Institute (CRI). The Report is posted on the CalRecycle Carpet website at http://www.calrecycle.ca.gov/Carpet/default.htm and CalRecycle opened a comment period for stakeholder comments on the Report. No public comments were received. CalRecycle staff have reviewed the Report and offer the following comments.

- This is a study of the price elasticity of demand (PED) for carpet sales in California. The economic model is based on an unconventional approach because it is using two data points rather than data over a longer time period of 10 years which is the usual approach for other PED studies.
  
  o [BW comments] The primary purpose of the study was to estimate the historical impact of the CCSP assessment fees, not the PED. We used the gold standard approach (difference-in-differences (DID)) for estimating the impact of a natural experiment, such as the changes in the assessment fee. The PED that results is a by-product and is only used for the prediction of future carpet shipment reductions for further increases in the assessment fees.

  o [BW comments] In any case, using data over 10 years is not necessarily a better approach for estimating a PED. In particular, a longer period of data does not provide any advantage if price and quantity did not change materially over time or if the industry experienced significant structural changes. A methodology that exploits natural experiments, such as our DID approach, can provide more reliable estimates of the PED, even when the sample period is much shorter than ten years. Indeed, there are numerous peer-reviewed studies that estimate PEDs using relatively short time-period data.

- The final estimate was in the range of 6.0 – 6.6. That is, a one percent increase in price results in roughly a six percent decrease in carpet purchased.
  
  o [BW comments] The estimate of -6.0 to -6.6 is not an estimate of the PED, but an estimate of the change in carpet shipments due to the CCSP assessment fee. Our estimated PED ranges from -3.5 to -3.8.

- Assuming a common time trend for both CA and the rest of the US is probably not a valid assumption. Sales trends in different places can be quite different. Historical comparisons of percent change in sales of floor coverings over time differ significantly by state. (See Attachment 1.)
  
  o [BW comments] The purpose of our study was to estimate the impact of the assessment fees on California carpet shipments. It was not necessary to explain the variation in carpet shipments within other states. Instead, we aggregated the rest of the United States and used California and rest-of-the-nation measures of population, housing permits, and personal income.

  o [BW comments] In any case, we are unaware of any source of state-level carpet shipments other than for California. However, we are willing to consider it if a source can be identified.
The state-level changes shown in Attachment 1 reflect “Sales in Floor Covering Stores.” It is our understanding that sales in floor covering stores would include a broader set of floor covering products than the carpet shipments we analyzed. In addition, the starting date range of the data comparison, 2007, is well before the start of the assessment fees.

In any case, the sales trends across the states illustrated in Attachment 1 are generally explained by variations in state-level demand factors, such as those we analyzed for California (i.e., population, personal income, housing permits). Specifically, we regressed the changes in floor covering sales for each state from Attachment 1 on the corresponding state-level changes in housing permits and personal income. The adjusted R-square from that regression is 0.714 meaning that about 71% of the variation in sales is explained by the variation in housing permits and personal income.

Data from other sources (see Attachment 2.) have significant variation in national sales and prices of floor coverings from 2007 to 2012. This should be addressed in the Report.

This comment is off base. The data in Attachment 2 imply different price levels for different types of floor covering (e.g., carpets, hardwood, ceramic, etc.). We have only studied carpet demand so the first row of each table is the only relevant row. In fact, the implied prices of carpet and area rugs from Attachment 2 show very little variation from year to year. The range of implied prices is $8.39 per sq. yard in 2011 to $8.81 in 2015. The average across all years is $8.67 per sq. yard compared to the $8.69 average price we used for calculating the PED. Hence, there is remarkable consistency in the carpet pricing data from different sources.

CalRecycle requested additional data regarding both prices and sales of other types of floor coverings. Specifically, CalRecycle requested carpet and flooring annual reports prior to 2015, that CRI representatives stated were available. In addition, the California-specific data that was used in the Report is also requested.

We are willing to review additional data, although the relevance of data concerning other types of floor coverings is not apparent to us. Our focus was exclusively on carpets. In any case, we reiterate that we had sufficient data to conduct our analysis reliably and remain confident in our estimates of the impact of the assessment fees on California carpet shipments and corresponding PED.

Independent variables that should be included in the model are:

- Some measure of commercial demand should be included. This is a sizeable fraction of the carpet market (estimated at 30% in Europe).
  - [BW comments] We are unaware of any source of such information, but are willing to consider it if a source can be identified. This comment also does not apply to our fixed-effects regression specification (i.e., Specifications I and III in Figure 4 of our report).

- Some measure of income (per capita?) should be included. This would help distinguish between the California and the rest of the U.S. consumers.
  - [BW comments] In footnote 4 of our report, we explained that personal income is nearly perfectly collinear with population and could not be included jointly with population. However, substituting personal income for population actually...
increases our estimate of the impact of the assessment fees on CA carpet shipments from approximately -6% to approximately -10%. This comment also does not apply to our fixed-effects regression specification.

- The study should include some measure of economic activity as regressors like inflation-adjusted carpet prices, or interest rate.
  - [BW comments] It is not necessary to control for factors that do not trend differently in California and the rest of the United States. Interest rates would not trend differently, hence there is no reason to include them.
  - [BW comments] With respect to prices, we understand that manufacturers price carpet at a national level and do not vary carpet prices by state or region. Discounts may be provided based upon customer purchasing volumes, but there is no reason to believe that prices would trend differently in California compared to the rest of the United States. Nevertheless, we are willing to consider such pricing data if a source can be identified. This comment also does not apply to our fixed-effects regression specification.

- Construction indicators should be based on the square feet of housing and commercial space constructed, rather than the number of housing permits.
  - [BW comments] We are unaware of any source of such information, but are willing to consider it if a source can be identified. This comment also does not apply to our fixed-effects regression specification.

- The number of housing permits is a second-best means to estimate new housing, as actual housing construction was constricted during 2015-2016, due to the drought.
  - [BW comments] We are unaware of any source of such information, but are willing to consider it if a source can be identified. This comment also does not apply to our fixed-effects regression specification.

- The study should include lags in housing permits.
  - [BW comments] Based upon the staff’s suggestion, we tested the inclusion of additional lags of housing permits in our regression. Adding two lags of housing permits (i.e., 6 months) slightly reduces our estimate of the impact of the assessment fees from -6.0% to -5.7%. Additional lags did not materially alter the estimated impact. This comment also does not apply to our fixed-effects specification.

- Is the average cost of carpet at $8.69 per square yard reasonable? What is the average cost of low-end versus high-end carpet and what is the PED for each? (See Attachment 3.)
  - [BW comments] The average price only impacts the elasticity estimate and our predictions of potential future impacts of the assessment fee. The average price is not used to estimate the historical impact of the assessment fee.

- The Report shows no state data other than for California; can regional data on carpet shipments to California and other states (or other regions) be incorporated?
  - [BW comments] Our understanding is that such data is not available. We are willing to consider such data if a source can be identified.
Comparison with Other Studies

There are relevant studies that provide other estimates of this price-purchase relationship. Most of the European studies in price elasticity deal with trade aspects, usually from imports to Europe from developing countries. However, there is one study of price elasticities of trade within European countries that might be relevant. This study derives a PED for “Carpets, Linoleum, etc.” that is 0.9. The dates for underlying studies vary, and a further effort is required to determine the date of this study. The study appears as a chapter in a book titled Empirical Studies of Strategic Trade Policy, edited by Paul Krugman and Alasdair Smith (1994). The chapter is titled “Trade Policy under Imperfect Competition: A Numerical Assessment”, by Anthony J Venables (1994).

- [BW comments] As noted in the description above, Venables (1994) reports a PED for “Carpets, Linoleum, etc.” of 0.9 a broader category of floor coverings than carpets. This distinction is important because it is well known in economics that broader product categories will have lower PED than specific products within those categories. The reason is that consumers have less ability to substitute outside of broad product categories, such as floor coverings, than they do for a specific product, such as carpets. Hence, the PED result from Venables (1994) is consistent with our implied PED (i.e., we find a larger PED for carpets than the prior studies found for floor coverings).

Finally, a 2013 study by the Bureau of Labor Statistics, in estimating additional consumer purchases due to increased house values in the 2004-2009 bubble, provided a corollary estimate of the carpet price elasticity of demand to be 0.95. The study is titled “Where did we indulge? Consumer spending during the asset boom”, Michael L. Walden; Monthly Labor Review, April 2013; pgs. 24-40.

- [BW comments] The price elasticity estimate in the 2013 BLS study is not informative of carpet demand in California for at least two main reasons. First, the 2013 BLS study combines carpets with drapes and linens as one product category; this is a much broader product category than the BW study analyzes and would be expected to find a lower PED for the reasons explained above. Second, the BLS study uses data spanning 1946–2009 to estimate the price elasticity. This 50-year period is well outside of the time period relevant to our analysis of the impact of the assessment fees. Also, by using such a long time-period, the BLS study would be confounded by any structural changes in carpet demand or supply that would have occurred over 50 years, a reasonable assumption.

In conclusion, all of these alternative PED’s seem reasonable for a quasi-luxury item with significant market competition. The Report should contain a discussion of literature that presents alternative PED’s for carpet, and explain why this particular study has arrived at a number significantly different from those derived in other studies of similar consumer products.
Attachment 1.

The chart shows the Percent Change in Sales in “Floor Covering Stores”, between the two U.S. Census reports of 2007 and 2012. Discarding the two outlier points, the sales by state vary between 0% and a 50% reduction. The median reduction in sales during this interval was 31%, and the mean reduction in sales was 29%. The respective value for California was a 32% reduction.

The economic recovery from the low of 2010 varied by state, and none of this data seems to have been incorporated into the Report.
Attachment 2.

The Floor Covering Weekly of July 25, 2016, contains an article on the Statistical Report 2015. The table below appears on page 10 of this magazine. This data provides average prices for flooring, and in particular for carpeting, that are significantly greater than has been discussed elsewhere. Furthermore, the prices and quantities appear to differ from other industry reports.

CalRecycle is interested in obtaining the relevant specific data set that underlies the Report. In addition, prior years of this Statistical Report would provide useful trend information regarding the carpet and flooring market shares.

**TABLE 1**

U.S. floor covering market sales value
(IN MILLIONS OF MANUFACTURERS' DOLLARS)

<table>
<thead>
<tr>
<th>Product Sector</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpet &amp; area rugs</td>
<td>$9,533</td>
<td>$10,041</td>
<td>$10,491</td>
<td>$10,754</td>
<td>$10,743</td>
<td>-0.1%</td>
</tr>
<tr>
<td>Hardwood flooring</td>
<td>2,052</td>
<td>2,331</td>
<td>2,917</td>
<td>3,554</td>
<td>3,791</td>
<td>6.7%</td>
</tr>
<tr>
<td>Ceramic floor &amp; wall tile</td>
<td>2,206</td>
<td>2,241</td>
<td>2,642</td>
<td>2,882</td>
<td>3,134</td>
<td>8.7%</td>
</tr>
<tr>
<td>Laminate flooring</td>
<td>894</td>
<td>908</td>
<td>922</td>
<td>932</td>
<td>912</td>
<td>-2.1%</td>
</tr>
<tr>
<td>Vinyl sheet &amp; floor tile</td>
<td>1,938</td>
<td>2,195</td>
<td>2,390</td>
<td>2,593</td>
<td>2,947</td>
<td>13.7%</td>
</tr>
<tr>
<td>Other resilient flooring1</td>
<td>229</td>
<td>231</td>
<td>250</td>
<td>260</td>
<td>275</td>
<td>5.8%</td>
</tr>
<tr>
<td>Stone flooring2</td>
<td>1,064</td>
<td>1,110</td>
<td>1,175</td>
<td>1,237</td>
<td>1,335</td>
<td>7.9%</td>
</tr>
</tbody>
</table>

R= Revised

Source: Catalina Research
1 Other resilient includes cork, rubber, other plastics and linoleum.
2 Natural stone. Excludes manufactured and engineered stone.

**TABLE 2**

U.S. floor covering market sales volume
(IN MILLIONS OF SQUARE FEET)

<table>
<thead>
<tr>
<th>Product Sector</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpet &amp; area rugs</td>
<td>10,219</td>
<td>10,459</td>
<td>10,865</td>
<td>10,990</td>
<td>10,973</td>
<td>-0.2%</td>
</tr>
<tr>
<td>Hardwood flooring</td>
<td>1,033</td>
<td>1,162</td>
<td>1,427</td>
<td>1,560</td>
<td>1,699</td>
<td>8.9%</td>
</tr>
<tr>
<td>Ceramic floor &amp; wall tile</td>
<td>1,961</td>
<td>2,165</td>
<td>2,366</td>
<td>2,640</td>
<td>2,838</td>
<td>7.5%</td>
</tr>
<tr>
<td>Laminate flooring</td>
<td>950</td>
<td>964</td>
<td>993</td>
<td>1,002</td>
<td>950</td>
<td>-5.2%</td>
</tr>
<tr>
<td>Vinyl sheet &amp; floor tile</td>
<td>2,580</td>
<td>2,731</td>
<td>3,033</td>
<td>3,318</td>
<td>3,527</td>
<td>6.3%</td>
</tr>
<tr>
<td>Other resilient flooring1</td>
<td>205</td>
<td>191</td>
<td>200</td>
<td>204</td>
<td>219</td>
<td>7.4%</td>
</tr>
<tr>
<td>Stone flooring2</td>
<td>262</td>
<td>277</td>
<td>286</td>
<td>295</td>
<td>313</td>
<td>6.3%</td>
</tr>
</tbody>
</table>

R= Revised

Source: Catalina Research
1 Other resilient includes cork, rubber, other plastics and linoleum.
2 Natural stone. Excludes manufactured and engineered stone.
Attachment 3.

An alternative industry report contains a set of industry statistics, that has this disclaimer: “FCNews does not include stone flooring in its aggregate total, nor does it include ceramic wall tile. In addition, rubber flooring numbers include sheet, tile, accessories and cove base.”

The annual total value in sales is nearly identical, but the total square footage sold varies by approximately 20%.

http://www.fcnews.net/2016/06/scoring-flooring-industry-stats-for-2015/
Attachment 11. Education and Outreach Materials

Samples of various Program E&O materials are presented below; these are not intended to be comprehensive of all Program promotional materials. Refer to the 2016 California Annual Report for additional information.

**Monthly E-News (sample excerpt)**

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**California Carpet Stewardship Program**

**August 2016 Update**

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**September 30 Deadline to Apply for 1C Procurement Grants**

California public entities and their contractors are encouraged to apply for grants of up to $50,000 per project to support the procurement of post-consumer recycled carpet products. The deadline to apply is September 30; full details and application form can be found [here](#).

Questions on the pilot grant cycle were taken from the public, with answers published on August 1 [here](#).

A list of pre-qualified eligible products containing California post-consumer carpet material is available [here](#).

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**Double Green Products Debut**

CARE’s California Carpet Stewardship Program has unveiled a new designation for post-consumer recycled-carpet products. Double Green products contain California post-consumer carpet material and at least one other recycled material, both diverted from California landfills. One newly-created product comes from Modesto’s Sierra Mat & Rubber, which produces wheel stops and floor mats made with recycled-tire crumb rubber mixed with post-consumer calcium carbonate from recycled carpet.
Program Blog (sample excerpt)

Products with Recycled Post-Consumer Carpet Available from California Companies

Posted on September 24, 2016

A variety of products using recycled California post-consumer carpet as feedstock are now available from these in-state companies:
- RecycleStat (signage)
- ReBalance Carpet Cushion (salon), SafePath (carpet), walkway systems)
- Sierra Mat & Rubble (floor coverings, panels, mats)

These companies are listed in a key database maintained by CalRecycle to encourage the acquisition of products containing recycled-material content.

The Recycled Content Product Manufacturers (RCPM) directory showcases innovative recycled-content products made by California manufacturers who use recycled waste as a feedstock.

Recycle Store lists manufacturers who use California waste as a feedstock and are located within a Recycling Market Development Zone (RMDZ).

CARS offers grants to support the procurement of post-consumer carpet products by California public entities and their contractors. The deadline to apply is September 30 - learn more here.
Program Brochure (sample excerpt)
Drop-off Site Signage

Carpet & Pad Recycling Here

Must be dry and debris-free

California Carpet Stewardship Program
An initiative of CARE: Carpet America Recovery Effort
Monthly E-News for Recycling Coordinators (sample excerpt)

California Carpet Stewardship Program
Local Government Recycling Coordinators News

The California Carpet Stewardship Program is reaching out to local government recycling coordinators to spread the word about carpet recycling resources and opportunities. We will provide you with information in the coming months to enable you to communicate with transfer stations, retailers and the public with a goal of increasing carpet recycling in your area. Currently available resources are described below and include information about our California map of carpet recycling drop-off sites and a brochure suitable for the public.

Carpet Recycling Drop-Off Site Map

CARE provides services to dozens of drop-off locations throughout the state of California that accept carpet for recycling; these are noted on an updated online map. Independent drop-off locations not affiliated with CARE’s California Carpet Stewardship Program are also listed. Opening hours, contact information, and information about fees are included in each listing.

Note: It is important to contact the drop-off site before visiting. Some locations may require an appointment and/or proof of residency.

We encourage you to publicize the drop-off site map as appropriate on your agency’s website and via social media. The number of CARE-supported sites is expected to double in
Program Twitter Feed (sample tweet)

CARE
@CarpetRecycle

Post consumer #carpet product procurement grants available and more news: bit.ly/29FFFZG #recycling

Carpet Recycling in California

3:38 PM - 14 Jul 2016
Installer Videos

In 2017, CARE produced a video on carpet recycling for California installers, in both English and Spanish. It will continue to be promoted going forward, and it is available online via links below. As of August 2018, the two videos combined have been viewed more than 240,000 times.

The Installer page on CARE’s website:
https://carpetrecovery.org/ca-installers/

CARE’s YouTube channel:
www.youtube.com/channel/UCpcP5GT26aZ5xd46UUzFmBw
Attachment 12. Agreed Upon Procedures

This attachment includes summaries of Agreed Upon Procedures for the following participants in the Program:

Collector/Sorters (CSEs)

Carpet Mills

Recyclers and Processors

Collection Sites (add-on to other AUPs)
Agreed Upon Procedures for Collector/Sorters (CSEs)

Program Requirements

- All CSEs must sign and maintain a current contract with CARE.
- CSEs must accept all types of PCC at their facilities.
- Tracking logs must be maintained on all inbound and outbound shipments.
- Loads of PCC must be sorted at the CSE’s facility prior to disposition of materials (including reuse).
- Loads of PCC may not be sent directly to the landfill or WtE prior to sorting at CSE facility.
  - Exceptions: if a load can be shown to be infested or contaminated to a degree it endangers the CSE facility or its workers or if a load is wet and cannot be handled.
  - Such exceptions should be documented and where feasible include photographs.
  - Exceptions should be reported to CARE within the current monthly reporting cycle.

General Procedures

a. Obtain the Request for Payment submitted by the Company from CARE.

b. Verify the Request for Payment was signed by an Officer of the business.

c. Confirm with CARE representatives that the Request for Payment and supporting schedules were submitted prior to submission deadline.

d. Confirm with CARE representatives the Company is a member of CARE in good standing.

e. Confirm documentation in place in support of Requests for Payment on record with the collector identified to ensure compliance with the three-year documentation retention period requirement.

f. Inquire of the Company regarding any reported significant deficiencies or material weaknesses reported by the Company’s independent accountant.

g. Perform a site visit and observe the Company’s operations corroborating inquiry responses provided by CSE to observations.
Collection Procedures

h. Document the Company’s policy for tracking collections and weighing inbound material, if applicable.

i. Inquire as to whether the Company collects PCC from any states outside of California.

Outgoing Shipments

j. Document the Company’s method for calculating outbound PCC eligible for funding. Determine if the Company’s method for calculating outbound shipments is consistently applied as a basis for reporting to CARE. Recalculate the Company’s shipped output eligible for funding.

k. Select a sample of sales invoices from the Company invoice register to verify the shipments of California based PCC during the quarter. For each of the selected invoices, obtain a copy of the corresponding invoice and signed bill of lading.

l. Confirm a sample of the sorted output during the quarter directly with selected customers.

m. Inquire as to whether there were any transactions with related parties.

Reporting Procedures

n. Recalculate and test the mathematical accuracy of the requests for payment.

o. Report exceptions noted to CARE.
Agreed Upon Procedures for Carpet Mills

Our agreed-upon procedures are as follows:

1. Obtain Company's remittance report for the quarter ending [Insert Quarter End] and determine that the total sales reported for the period multiplied by the remittance rate ($0.25) (or that quarters assessment rate in effect if the assessment changes during the year) equals the amount remitted to CARE for the quarter.

2. Review the Company's California AB 2389 remittance for the quarter for the required Company page that accompanies quarterly reporting to ensure that required signatures were included.

3. Review brand registration form for the quarter to ensure the form was received prior to the due date for the quarter.

4. Agree total sales reported on Company's general ledger for the quarter to Company's invoice register detailing all invoices issued for the quarter and obtain explanation for all reconciling items.

5. Obtain Company's California invoice register for the quarter as well as a reconciliation to the amount reported on the California AB 2398 remittance report to ensure that the totals are in agreement.

6. Select 25 line items from Company's invoice register for the quarter and obtain the invoice and bill of lading for each item selected. For each item selected determine that the sales were included on Company’s California invoice register if the shipment was made to California.

Or in the case of a large mill:

Aprio will select items from the Company’s invoice register for the quarter, based on the monetary unit sampling criteria used below and obtain the invoice and bill of lading for each item selected. For each item selected Aprio will determine that the sales were included on Company’s California invoice register if the shipment was made to California.

Monetary unit sampling criteria:

1) Tolerable error: 2.5% of total sales
2) Confidence level was determined to be set at 80% (20% of risk of incorrect acceptance)
3) Zero expected error
7. Randomly select 20 items from the California invoice register as reconciled to the California AB 2398 remittance report and obtain invoice and shipping documents and verify the following information on the California invoice register:

   a. Date of shipment
   b. Destination
   c. Square yards shipped
   d. Type of carpet shipped and whether that type of carpet was appropriately included in or excluded from California AB 2398 remittance reporting based on parameters included in the statute.
   e. That California AB 2398 assessment was shown as a separate line item on the invoice as required by the statute.

Or in the case of a large mill:

Aprio will select items from the California invoice register as reconciled to the California AB 2398 remittance report based on the monetary unit sampling criteria used below:

Monetary unit sampling criteria:

1) Tolerable error: 2.5% of total sales (based on California sales as a percent of total sales)
2) Confidence level was determined to be set at 80% (20% of risk of incorrect acceptance)
3) Zero expected error

Aprio will obtain invoice and shipping documents and verified the following information on the California invoice register:

1) Date of shipment
2) Destination
3) Square yards shipped
4) Type of carpet shipped and whether that type of carpet was appropriately included in or excluded from the California AB 2398 remittance reporting based on parameters included in the statute.
5) That California AB 2398 assessment was shown as a separate line item on the invoice as required by the statute.

8. Obtain Company’s exemption listing for the quarter and investigate deviations from the supporting reports to the quarterly reports greater than $2,500. Select 10 items from the supporting report of exemptions and obtain the related supporting documentation to determine that the types of items excluded were consistent with
the CA AB 2398's definition of allowable items for exclusion (ex. rugs, miscellaneous, samples, excluded backing types). Report any discrepancies noted.

9. Aprio will contact CARE and verify that Company has paid all membership dues required in order to be a member in good standing as of the quarter ending.

10. Inquire the Company as to whether or not the Company produce indoor/outdoor carpets for the quarter.

11. CARE’s expectation for the quarterly agreed upon procedures is that the agreed upon procedures report be completed in the quarter subsequent to the quarter being tested. If the report is not issued by the end of the subsequent quarter, identify any items encountered that resulted in a delay.
Agreed Upon Procedures for AB 2398 Recyclers and Processors

General Procedures

a. Obtain the Request for Payment submitted by the Company from CARE.

b. Verify the Request for Payment was signed by an Officer of the business.

c. Confirm with CARE representatives that the Request for Payment and supporting schedules were submitted prior to submission deadline.

d. Confirm with CARE representatives the Company is a member of CARE in good standing.

e. Verify Company has submitted next quarter's forecast prior to submission deadline.

f. Confirm documentation in place in support of Requests for Payment on record with the recycler/processor identified to ensure compliance with the three year documentation retention period requirement. In addition, examine and verify documentation for the determination of ash content and periodic testing is retained. Report the frequency of testing represented by the Company and the documentation kept on-site to evidence the ash content testing.

g. Inquire of the Company regarding any reported significant deficiencies or material weaknesses reported by the Company’s independent accountant.

h. Perform a site visit and observe the Company’s operations corroborating inquiry responses provided by recycler/processor to observations.

Collection Procedures

i. Agree total reported collections (lbs) and by category in total per request for payment to incoming receipts ledger for the reporting period.

j. Agree total reported CA collections (lbs) and by category in total per request for payment to incoming receipt log or ledger for the reporting period.

k. Obtain a confirmation letter from selected suppliers confirming lbs sold to the Company for the quarter and the amount of qualifying CA lbs included in the lbs sold to and received by the Company for the quarter.

Outgoing Shipments

l. Document the Company's method for calculating outbound PCC eligible for funding. Determine if the Company’s method for calculating outbound shipments
is consistently applied as a basis for reporting to CARE. Recalculate the Company’s shipped output eligible for funding based on the Company’s methodology.

m. Agree total reported collections (lbs) and by category in total per request for payment to incoming receipts ledger for the reporting period.

n. Select a sample of sales invoices from the Company invoice register to verify the shipment of manufactured/processed product containing California based PCC during the quarter of 2017. For each of the selected invoices, for each of the selected invoices, obtain a copy of the corresponding invoice and signed bill of lading.

o. Confirm processed/manufactured output during the quarter directly with selected customers.

q. Inquire as to whether there were any transactions with related parties.

**Reporting Procedures**

r. Recalculate and test the mathematical accuracy of the requests for payment.

s. Report exceptions noted to CARE.

t. Provide a summary table of findings to CARE for exceptions noted during the performance of the procedures. This table includes the requested amount, adjustments to the requested amount, the magnitude of the adjustments as a percentage, and disclose other exceptions noted that have an undetermined impact on the amounts requested by the recyclers.
Agreed Upon Procedures for CARE Collection Sites (*add-on*)

*In 2018, the procedures below were added to any AUP in which the participant collects material from CARE collection sites.*

**Modified procedures to be added to all AB 2398 Collector AUPs**

1) Obtain listing of all CARE collection sites participant collected from during the quarter.
   a. Ensure listing includes date collected and location collected from.

2) Obtain a summary of the Company’s cost structure for collecting from these sites.
   a. Determine the total amount billed as it relates to collecting from CARE collection sites during the quarter.
**Attachment 13. Monthly Reporting Forms—Examples**

**Collector/Sorter Monthly Input Form**

<table>
<thead>
<tr>
<th>CSE Data Entry Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company Name:</td>
</tr>
<tr>
<td>Report Prepared by:</td>
</tr>
<tr>
<td>Phone Number:</td>
</tr>
<tr>
<td>Email Address:</td>
</tr>
<tr>
<td>Date of Report:</td>
</tr>
</tbody>
</table>

**AB 2398 Monthly Reporting
CONFIDENTIAL Actual
February 2018**

<table>
<thead>
<tr>
<th>California Jobs Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of California FTEs at beginning of this month</td>
</tr>
<tr>
<td>Number of FTE California Jobs lost this month</td>
</tr>
<tr>
<td>Number of FTE California Jobs gained this month</td>
</tr>
<tr>
<td>TOTAL Number of California FTEs at end of this month</td>
</tr>
</tbody>
</table>

| How many California sites did YOU COLLECT carpet from this month? |

**Accounting of Beginning Inventory this month**

| Starting Inventory - Broadloom |
| Starting Inventory - Carpet Tiles for REUSE or Recycling |
| Starting Inventory - Pounds of carpet PAD/CUSHION |

| TOTAL Starting Inventory |

| Accounting for total PC Carpet Inputs & Beginning Inventory this month |

| PC Carpet pounds directly collected by you from California for this month |
| Nylon 6 |
| Nylon 6,6 |
| Polypropylene |
| PET |
| Wool |
| Other/Mixed Fibers |
| Carpet Tile |
| Carpet Padding |
| Pounds of carpet PAD/CUSHION collected by you |

| TOTAL Carpet + Padding |

| Ending Inventory - CARPET TILE REUSE: Shipped & Donated/Sold for REUSE only |
| Ending Inventory - Broadloom |
| Ending Inventory - Carpet Tiles for REUSE or Recycling |
| Ending Inventory - Pounds of carpet PAD/CUSHION |

| TOTAL |

| Other Dispositions of PC Carpet |
| CAAF |
| Cement Kiln feedstock |
| Carcass (Shipped & Sold) |
| WTE |
| Landfilled |
| Incinerated |
| TOTAL |

| Mass Balance (should equal 0) |

| Starting + Collections In - Collections Out - Other End Use |

| Calculations for funding |
| CSE Reporting Incentive |
| Carpet Tile Recycled or Reuse Subsidy PILOT (50.05) |
| Carpet Tile REUSE: Carpet Tile Shipped & Donated/Sold for REUSE (50.10) |
| Broadloom REUSE Only (50.10) |
| Broadloom Shipped & Sold for Recycling (50.02) |

| TOTAL Requested | $1,000.00 |
Collector/Sorter Monthly Input Form (continued)

<table>
<thead>
<tr>
<th>#</th>
<th>Company/Individual Receiving Carpet Tiles for REUSE</th>
<th>LBS</th>
<th>Location/Contact Information for Receiving Party</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#</th>
<th>Company/Individual Receiving Carpet Tiles for RECYCLING</th>
<th>LBS</th>
<th>Location/Contact Information for Receiving Party</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#</th>
<th>Company/Individual Receiving Broadloom for REUSE</th>
<th>LBS</th>
<th>Location/Contact Information for Receiving Party</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#</th>
<th>Company/Individual Receiving Broadloom Shipped (Not for REUSE)</th>
<th>LBS</th>
<th>Location/Contact Information for Receiving Party</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Submission of this data reaffirms my agreement to maintain good standing with CARE: I attest to the truthfulness of this data, I will allow review by CARE and its accounting representatives for verification, and I acknowledge I am not in violation of any local or state environmental regulations.

For Office Use Only

<table>
<thead>
<tr>
<th>VERSION # and DATE CREATED:</th>
<th>v1 2/26/18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Filed:</td>
<td></td>
</tr>
<tr>
<td>Signoff:</td>
<td></td>
</tr>
<tr>
<td>Processors Data Entry Form</td>
<td></td>
</tr>
<tr>
<td>----------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>AB 2398 Monthly Reporting</strong></td>
<td></td>
</tr>
<tr>
<td><strong>CONFIDENTIAL</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Actual</strong></td>
<td></td>
</tr>
<tr>
<td><strong>February 2018</strong></td>
<td></td>
</tr>
</tbody>
</table>

### California Jobs Information

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>Number of California FTEs at beginning of this month</td>
</tr>
<tr>
<td>12</td>
<td>Number of FTE California Jobs lost this month</td>
</tr>
<tr>
<td>13</td>
<td>Number of FTE California Jobs gained this month</td>
</tr>
<tr>
<td>14</td>
<td>Total Number of California FTEs at end of this month</td>
</tr>
</tbody>
</table>

### Collection Sites

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>How many California sites did YOU COLLECT carpet from this month?</td>
</tr>
</tbody>
</table>

### PC Carpet Pounds

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>Tile pounds directly collected in California by you for this month</td>
</tr>
<tr>
<td>20</td>
<td>Tile pounds from California received from other collector(s) from California</td>
</tr>
<tr>
<td>21</td>
<td>Total California Tile Pounds</td>
</tr>
<tr>
<td>22</td>
<td>Tile pounds directly collected from OUTSIDE California by you for this month</td>
</tr>
<tr>
<td>23</td>
<td>Tile pounds from California received from other collector(s) from OUTSIDE California</td>
</tr>
<tr>
<td>24</td>
<td>Total Non-California Tile Pounds</td>
</tr>
<tr>
<td>25</td>
<td>TOTAL Tile Pounds</td>
</tr>
</tbody>
</table>

### Broadloom

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>27</td>
<td>Broadloom pounds directly collected in California by you for this month</td>
</tr>
<tr>
<td>28</td>
<td>Broadloom pounds from California received from other collector(s) from California</td>
</tr>
<tr>
<td>29</td>
<td>Total California Broadloom Pounds</td>
</tr>
<tr>
<td>30</td>
<td>Broadloom pounds directly collected from OUTSIDE California by you for this month</td>
</tr>
<tr>
<td>31</td>
<td>Broadloom pounds from California received from other collector(s) from OUTSIDE California</td>
</tr>
<tr>
<td>32</td>
<td>Total Non-California Broadloom Pounds</td>
</tr>
<tr>
<td>33</td>
<td>TOTAL Broadloom Pounds</td>
</tr>
</tbody>
</table>

### Carpet Padding

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td>Pounds of carpet PAD/CUSHION collected from California by you</td>
</tr>
</tbody>
</table>

### Accounting for total PC Carpet Inputs & Beginning Inventory this month

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>48</td>
<td>Beginning Inventory of Carpet Tile from California at start of month (should equal prior month ending inventory)</td>
</tr>
<tr>
<td>49</td>
<td>Tile collected/received from California (equal to Total California pounds Row 21)</td>
</tr>
<tr>
<td>50</td>
<td>TOTAL CALIFORNIA TILE AVAILABLE FOR PROCESSING</td>
</tr>
<tr>
<td>51</td>
<td>Beginning Inventory of Broadloom from California at start of month (should equal prior month ending inventory)</td>
</tr>
<tr>
<td>52</td>
<td>Broadloom collected/received from California (equal to Total California pounds Row 29)</td>
</tr>
<tr>
<td>53</td>
<td>TOTAL CALIFORNIA BROADLOOM AVAILABLE FOR PROCESSING</td>
</tr>
<tr>
<td>54</td>
<td>TOTALS</td>
</tr>
<tr>
<td>55</td>
<td>TOTAL CALIFORNIA PC CARPET (TILE &amp; BROADLOOM) AVAILABLE FOR PROCESSING</td>
</tr>
</tbody>
</table>
### Processor Monthly Input Form (continued)

| 59 | Accounting for Total PC Carpet Outputs & Ending Inventory |
| 60 | Tile |
| 61 | Tile REUSE COLLECTED FROM CALIFORNIA BY YOU and Sold & Donated for REUSE only |
| 62 | Tile REUSE received from California from other collector(s) and Sold & Donated for REUSE only |
| 63 | Tile Recycling COLLECTED FROM CALIFORNIA BY YOU and Sold & Shipped |
| 64 | Tile Recycling shipped to customers INSIDE California |
| 65 | Tile Recycling shipped to US customers OUTSIDE California |
| 66 | Tile Recycling shipped to customers outside the United States |
| 67 | Tile Recycling internally used by you |
| 68 | Tile Recycling RECEIVED from CALIFORNIA from other collector(s) and Sold & Shipped |
| 69 | Tile Recycling shipped to customers INSIDE California |
| 70 | Tile Recycling shipped to US customers OUTSIDE California |
| 71 | Tile Recycling shipped to customers outside the United States |
| 72 | Tile Recycling internally used by you |
| 73 | Ending Inventory of Tile |
| 74 | TOTAL |

| 75 | TOTAL |
| 76 | Broadloom |
| 77 | Broadloom REUSE COLLECTED FROM CALIFORNIA BY YOU and Sold & Donated for REUSE only |
| 78 | Broadloom Recycling COLLECTED FROM CALIFORNIA BY YOU and Sold & Shipped |
| 79 | Broadloom Recycling shipped to customers INSIDE California |
| 80 | Broadloom Recycling shipped to US customers OUTSIDE California |
| 81 | Broadloom Recycling shipped to customers outside the United States |
| 82 | Broadloom Recycling internally used by you |
| 83 | Broadloom Recycling RECEIVED from CALIFORNIA from other collector(s) and Sold & Shipped |
| 84 | Broadloom Recycling shipped to customers INSIDE California |
| 85 | Broadloom Recycling shipped to US customers OUTSIDE California |
| 86 | Broadloom Recycling shipped to customers outside the United States |
| 87 | Broadloom Recycling internally used by you |
| 88 | Ending Inventory of Broadloom |
| 89 | TOTAL |

| 90 | TOTALS |
| 91 | PC Carpet REUSE Sold & Donated for REUSE only |
| 92 | PC Carpet Recycling Sold & Shipped |
| 93 | PC Carpet Recycling shipped to customers INSIDE California |
| 94 | PC Carpet Recycling shipped to US customers OUTSIDE California |
| 95 | PC Carpet Recycling shipped to customers outside the United States |
| 96 | PC Carpet Recycling internally used by you |
| 97 | Ending Inventory of PC Carpet |
| 98 | TOTAL |

| 99 | Other Disposition |
| 100 | Sort department material sent to WTE |
| 101 | Sort department material sent to Incineration |
| 102 | Sort department material sent to Landfill |
| 103 | CHECK: Sum of Rows 98, 100, 101, 102 must equal Row 58 |
| 104 | Processing of Internally Used PC Carpet |
| 105 | Tile |
| 106 | Internally Used Tile from California only |
| 107 | Broadloom |
| 108 | Internally Used Broadloom from California only (Rows 82 and 87) |
| 109 | Processed Wastes sent to WTE |
| 110 | Processed Wastes sent to Incineration |
| 111 | Processed Wastes sent to Landfill |
| 112 | Other Outlets |
| 113 | TOTAL |
### Processor Monthly Input Form (continued)

<table>
<thead>
<tr>
<th>Row</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>114</td>
<td>Output and other destinations of PC Carpet internally processed this month</td>
<td></td>
</tr>
<tr>
<td>115</td>
<td>REUSE</td>
<td></td>
</tr>
<tr>
<td>116</td>
<td>Tile REUSE Carpet Tile Sold &amp; Donated for REUSE only (Rows 61 and 62)</td>
<td></td>
</tr>
<tr>
<td>117</td>
<td>Broadloom REUSE Whole Carpet Sold &amp; Donated for REUSE only (Rows 76 and 77)</td>
<td></td>
</tr>
<tr>
<td>118</td>
<td>Type 1 Outputs</td>
<td></td>
</tr>
<tr>
<td>119</td>
<td>Beginning Inventory of Type 1 Outputs from prior month</td>
<td></td>
</tr>
<tr>
<td>120</td>
<td>Processed Type 1 Output generated this month</td>
<td></td>
</tr>
<tr>
<td>121</td>
<td>Total Type 1 output available for sale</td>
<td></td>
</tr>
<tr>
<td>122</td>
<td>TILE RECYCLED: Shredded Carpet Tile used for Tile Backing (Sold &amp; Shipped)</td>
<td></td>
</tr>
<tr>
<td>123</td>
<td>Nylon 6 (Sold &amp; Shipped)</td>
<td></td>
</tr>
<tr>
<td>124</td>
<td>Nylon 6,6 (Sold &amp; Shipped)</td>
<td></td>
</tr>
<tr>
<td>125</td>
<td>Polypropylene (Sold &amp; Shipped)</td>
<td></td>
</tr>
<tr>
<td>126</td>
<td>PET (Sold &amp; Shipped)</td>
<td></td>
</tr>
<tr>
<td>127</td>
<td>Wool (Sold &amp; Shipped)</td>
<td></td>
</tr>
<tr>
<td>128</td>
<td>Other/Mixed Fibers (Sold &amp; Shipped)</td>
<td></td>
</tr>
<tr>
<td>129</td>
<td>Total Fiber (Sold &amp; Shipped)</td>
<td></td>
</tr>
<tr>
<td>130</td>
<td>DePoly or Chemical Component (Sold &amp; Shipped)</td>
<td></td>
</tr>
<tr>
<td>131</td>
<td>Total Type 1 Output (SOLD &amp; SHIPPED)</td>
<td></td>
</tr>
<tr>
<td>132</td>
<td>Ending Inventory of Type 1 Outputs</td>
<td></td>
</tr>
<tr>
<td>133</td>
<td>CHECK: Rows 121-131-132 must equal zero</td>
<td></td>
</tr>
<tr>
<td>134</td>
<td>Ash Tests</td>
<td></td>
</tr>
<tr>
<td>135</td>
<td>Number of Ash Tests run this month (min 1 per 1M pounds)</td>
<td></td>
</tr>
<tr>
<td>136</td>
<td>Average Ash Test Results over month for Type 1 pounds</td>
<td></td>
</tr>
<tr>
<td>137</td>
<td>Type 2 Outputs (Sold &amp; Shipped)</td>
<td></td>
</tr>
<tr>
<td>138</td>
<td>Filler</td>
<td></td>
</tr>
<tr>
<td>139</td>
<td>Carcass Sold</td>
<td></td>
</tr>
<tr>
<td>140</td>
<td>Total Type 2 Output (SOLD &amp; SHIPPED) as Counted by CalRecycle</td>
<td></td>
</tr>
<tr>
<td>141</td>
<td>PC4 (Calcium Carbonate)</td>
<td></td>
</tr>
<tr>
<td>142</td>
<td>Beginning Inventory of PC4</td>
<td></td>
</tr>
<tr>
<td>143</td>
<td>Processed PC4 generated this month</td>
<td></td>
</tr>
<tr>
<td>144</td>
<td>Total PC4 available for sale</td>
<td></td>
</tr>
<tr>
<td>145</td>
<td>Total pounds of PC4 Sold &amp; Shipped as a RAW MATERIAL</td>
<td></td>
</tr>
<tr>
<td>146</td>
<td>Ending Inventory of PC4</td>
<td></td>
</tr>
<tr>
<td>147</td>
<td>CHECK: Rows 144-145-146 must equal zero</td>
<td></td>
</tr>
<tr>
<td>148</td>
<td>TOTAL Recycled Output As Counted by CalRecycle (lbs)</td>
<td></td>
</tr>
<tr>
<td>149</td>
<td>Other Diversion</td>
<td></td>
</tr>
<tr>
<td>150</td>
<td>CAAF</td>
<td></td>
</tr>
<tr>
<td>151</td>
<td>Cement Kiln feedstock</td>
<td></td>
</tr>
<tr>
<td>152</td>
<td>Total Other Diversion</td>
<td></td>
</tr>
<tr>
<td>153</td>
<td>TOTAL Reuse and Processed Output</td>
<td></td>
</tr>
<tr>
<td>154</td>
<td>All Reuse and Processed Outputs (Reuse, Type 1, Type 2, PC4, CAAF, and Kiln)</td>
<td></td>
</tr>
<tr>
<td>155</td>
<td>Calculations for funding</td>
<td></td>
</tr>
<tr>
<td>156</td>
<td>Tile collected by you Shipped &amp; Donated/Sold for REUSE or RECYCLING($)</td>
<td></td>
</tr>
<tr>
<td>157</td>
<td>Broadloom collected by you Shipped &amp; Sold for RECYCLING ($)</td>
<td></td>
</tr>
<tr>
<td>158</td>
<td>Tile REUSE Only ($)</td>
<td></td>
</tr>
<tr>
<td>159</td>
<td>Broadloom REUSE Only ($)</td>
<td></td>
</tr>
<tr>
<td>160</td>
<td>Tile RECYCLED: Shredded Carpet Tile used for Tile Backing ($)</td>
<td></td>
</tr>
<tr>
<td>161</td>
<td>Fiber and DePoly Type 1 Output ($)</td>
<td></td>
</tr>
<tr>
<td>162</td>
<td>Type 2 Output (excluded CAAF and Kiln) ($)</td>
<td></td>
</tr>
<tr>
<td>163</td>
<td>PC4 (Calcium Carbonate) as Raw Material ($)</td>
<td></td>
</tr>
<tr>
<td>164</td>
<td>Total Requested $s (Collected &amp; Shipped + Reuse + Tile Recycle + Type 1 + Type 2 + PC4)</td>
<td></td>
</tr>
</tbody>
</table>
## Processor Monthly Input Form (continued)

### Strictly Confidential Shipment Donation Detail for Care/Accounting Firm Only

Please list all parties receiving carpet tile or broadloom for reuse (greater than or equal to 500 pounds)

<table>
<thead>
<tr>
<th>Company/Individual Receiving Carpet Tile/Broadloom for Reuse</th>
<th>Type of Material</th>
<th># Lbs Sold &amp; Donated</th>
<th>Location/Contact Information for Receiving Party</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<tr>
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</tr>
</tbody>
</table>

### Strictly Confidential Shipment Sale Detail for Care/Accounting Firm Only

Please list all parties receiving whole carpet (greater than or equal to 500 pounds)

<table>
<thead>
<tr>
<th>Company/Individual Receiving Whole Carpet</th>
<th>Type of Material</th>
<th># Lbs Sold &amp; Shipped</th>
<th>Location/Contact Information for Receiving Party</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>

### Strictly Confidential Shipment Sale Detail for Care/Accounting Firm Only

Please list all parties receiving type 1/type 2/calcium carbonate recycled output (greater than or equal to 500 pounds)

<table>
<thead>
<tr>
<th>Company/Individual Receiving Type 1/Type 2/Calcium Carbonate Recycled Output</th>
<th>Type of Material</th>
<th># Lbs Sold &amp; Shipped</th>
<th>Location/Contact Information for Receiving Party</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tr>
</tbody>
</table>

### Strictly Confidential Shipment Sale Detail for Care/Accounting Firm Only

Please list all parties receiving material for energy recovery (greater than or equal to 500 pounds)

<table>
<thead>
<tr>
<th>Company/Individual Receiving CAAF/KILN/WTE</th>
<th>Type of Material</th>
<th># Lbs Sold &amp; Shipped</th>
<th>Location/Contact Information for Receiving Party</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

### Attestation

Have you submitted the attestation form?

Submission of this data reaffirms my agreement to maintain good standing with CARE: I attest to the truthfulness of this data, I will allow on-site review by CARE and its accounting representatives for verification, and I acknowledge I am not in violation of any local or state environmental regulations.

For Office Use Only

[Signature]

Date Filed: 2/26/18
## Manufacturer Monthly Input Form

<table>
<thead>
<tr>
<th>Manufacturers Data Entry Form</th>
<th>Actual</th>
<th>February</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong> Company Name:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>2</strong> Report Prepared by:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3</strong> Phone Number:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4</strong> Email Address:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>5</strong> Date of Report:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### AB 2398 Monthly Reporting & Forecast

**CONFIDENTIAL**

| If located in California, number of Full Time Equivalents (FTEs) working on PC Carpet Products |
| Number of California FTEs at beginning of this month |
| Number of FTE California Jobs lost this month |
| Number of FTE California Jobs gained this month |
| Total Number of California FTEs at end of this month |

**Type 1 CA PC Carpet Fiber pounds PURCHASED by you this month**

| Type 1 NON-NYLON RO pounds directly purchased by you from a QUALIFIED Processor of California Waste Carpet each month |
| Type 1 NYLON 6 RO pounds directly purchased by you from a QUALIFIED Processor of California Waste Carpet each month |
| Total |

**Type 1 NON-NYLON RO pounds directly purchased by YOU by FIBER type**

| Polypropylene |
| PET |
| Other including mixed non-nylon fibers |
| **TOTAL** |

**CHECK: Row 23 must equal Row 16**

**Accounting for total Type 1 RO Inputs & Beginning Inventory this month**

| Beginning Inventory of Type 1 NON-NYLON RO processed PC Carpet from California at start of month (should equal prior month ending inventory) |
| Beginning Inventory of Type 1 NYLON 6 RO processed PC Carpet from California at start of month (should equal prior month ending inventory) |
| Total Beginning Inventory of Type 1 RO |
| Type 1 RO received/purchased from California (Row 18) |
| **TOTAL Material Available for Current Month** |

**Accounting for total Tier 2 Product Outputs & Ending Inventory**

| Tier 2 NON-NYLON used in Manufactured product SOLD & SHIPPED this month [SEE NOTE 1] |
| Tier 2 NYLON 6 used in Manufactured product SOLD & SHIPPED this month [SEE NOTE 1] |
| **Total Manufacturer Output (Non-Nylon & Nylon 6)** |
| Type 1 RO materials (waste) sent to WTE |
| Type 1 RO materials (waste) sent to Incineration |
| Type 1 RO materials (waste) sent to Landfill |
| Ending Inventory of Type 1 NON-NYLON RO processed PC Carpet from California |
| Ending Inventory of Type 1 NYLON 6 RO processed PC Carpet from California |
| **Total Ending Inventory of Type 1 RO** |
| **TOTAL** |

**CHECK: Row 41 must equal Row 30**

**Calculations for funding**

| Total Requested ($) Non-Nylon ($0.25) |
| Total Requested ($) Nylon 6 ($0.10) |
| **Total Requested Manufactured ($)** |
### Manufacturer Monthly Input Form (continued)

<table>
<thead>
<tr>
<th>Name of End Product (Specify Product)</th>
<th>[# LBS]</th>
<th>[%]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

**CHECK:** Rows 49+50+51+52 must equal Row 32

<table>
<thead>
<tr>
<th>Name of End Product (Specify Product)</th>
<th>[# LBS]</th>
<th>[%]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

**CHECK:** Rows 55+56+57+58 must equal Row 33

1. **Source of Type 1 RO pounds directly purchased by YOU**

<table>
<thead>
<tr>
<th># LBS Purchased</th>
<th>Type of Fiber Purchased (PET, Polypropylene or Nylon 6)</th>
<th>Location/Contact Information for Purchasing Party</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

2. **ATTESTATION**

Have you submitted the attestation form?

Submission of this data reaffirms my agreement to maintain good standing with CARE: I attest to the truthfulness of this data, I will allow on-site review by CARE and its accounting representatives for verification, and I acknowledge I am not in violation of any local or state environmental regulations.

01. **NOTE 1:** This is pounds of Type 1 PCC contained in your final product. It is **NOT** the total product weight; only that of the Type 1 content.

02. **NOTE 2:** Inventory includes both unused processed PCC (Type 1 fiber) as well as the Type 1 content of manufactured products not yet sold/shipped
Attachment 14. SPC Review Slides on 2016/2017 Council Ideas

Council work product as of September 20, 2017, and July 6, 2016

Please note: The content in Council Attachment 13 was prepared during summer 2016 through summer 2017 and was accurate as of the date of preparation; the content has not been revised to reflect subsequent deliberations or adjustments.
Thank you for attending!

AGENDA

- Welcome
- Q2 Quick Update
- Content of new Plan
- Lunch
- AB 1158:
  - Content
  - Implications for Plan
- Feedback to SPC
- Next Steps and Closing
Housekeeping

- Agenda Review
- Anti-trust
- Reimbursements

GROUND RULES
(as determined by group Feb 2016)
- Timeliness
- Respect for one another
- Respect for process
- Genuinely want to find solutions
- Cell phone: silent, take conversations outside
- Agree to disagree
- Active listening
- Big picture
- Bring issues up here (no water cooler conversations)

Why Change in Plan Review

- AB 1158 will go to Governor’s desk
- Expectation: bill will be signed
- 90-Day extension on Plan submission anticipated
- Plan must be must be modified to comply with AB 1158
- Shift today from reviewing plan to:
  - Share approved content thus far of Plan
  - Discuss AB 1158: what’s in it, how will it impact Plan
- Seek Council guidance on how Plan should be modified
- Provide feedback to SPC
Council Member Introductions

2017 Council Members
Plan Content

New Plan Content

Many changes in new Plan:

- New subsidies
- More grant $s
- More E&O funding
- More technical resources
- Higher assessments to fund program
- More clarity about processes and decision making
- More engagement with Council
### California Carpet Stewardship Plan 2018–2022

**ATTACHMENT 14**

<table>
<thead>
<tr>
<th>CSEs</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSE Reporting Incentive</td>
<td>$1,000/mo.</td>
</tr>
<tr>
<td>Carpet Tile Reuse Payout</td>
<td>$0.10/lb.</td>
</tr>
<tr>
<td>Broadloom Reuse Payout</td>
<td>$0.10/lb.</td>
</tr>
<tr>
<td>Whole Carpet Shipped &amp; Sold for Recycling Payout*</td>
<td>$0.02/lb.</td>
</tr>
</tbody>
</table>

**Processors**

| Carpet Tile Reuse Payout                 | $0.10/lb.  |
| Broadloom Reuse Payout                   | $0.10/lb.  |
| Tile Recycled Payout                     | $0.10/lb.  |
| Type 1 Output (<25% Ash) Payout          | $0.10/lb.  |
| Type 2 Output (>25% Ash) Payout          | $0.03/lb.  |
| Type 2 Calcium Carbonate Payout          | $0.17/lb.  |
| Type 2 CAAF Payout**                     | $0.03/lb.  |
| Type 2 Cement Kiln Payout**              | $0.03/lb.  |

**Manufacturers**

| Non-Nylon Payout                         | $0.25/lb.  |

**Active Subsidies**

- + new subsidies
- Council
- Recommendation

---

**Subsidy Ranking Results**

| Top 10 Potential Subsidies               | Cap Removed |  |
|------------------------------------------|--------------|
| CSE Subsidy                              | ✓ 1          |
| Tier 1 - Type 1 RO                      | ✓ 2          |
| Tier 2 – Non-Nylon                       | ✓ 3          |
| Reuse Subsidy                            | ✓ 4          |
| Tier 1 – Calcium Carbonate RO            | ✓ 5          |
| Tier 1 – Commercial RO < 0.02/lb.       | Pilot ✓ 6    |
| Tier 2 – Nylon < 0.10/lb.               | Pilot ✓ 7    |
| Tier 2 – Calcium Carbonate               |              |
| Tier 2 – Intermediate                    |              |
| Tier 1 – Type 2 RO                      |              |
| Tier 1 – Ash Content Adjustment RO       | ✓ 11         |
| Tier 1 – Carpet Tile RO < 0.10/lb.      | ✓ 12         |
| Tier 2 – Carpet Tile (Carpet-To-Carpet)  | 13           |
| Differential Payouts (see description in previous table) | 14 |
| CSE Special Tile Collection – CSEs $0.05/lb. | Now Pilot ✓ 15 |
| CAAF/Klin – non-recyclable residues      | Stop X 16    |

---

**Version 97 | page 365**
Grants Program - Investing in Recycling

- Cycle 1A – Capital Investments Grants
- Cycle 1B – Product Testing Grants
- Cycle 1C – Public Procurement Grants
- Cycle 1M – Micro grants

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount</td>
<td>$2.0M</td>
<td>$2.0M</td>
<td>$2.0M</td>
<td>$1.5M</td>
<td>$1.0M</td>
</tr>
</tbody>
</table>
## Grants - Results

<table>
<thead>
<tr>
<th>Grants</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Grants</td>
<td>1</td>
</tr>
<tr>
<td>Product Testing</td>
<td>2</td>
</tr>
<tr>
<td>Research &amp; Development</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>INCREASING SUPPORT</strong></td>
</tr>
<tr>
<td>Micro-Grants</td>
<td>4</td>
</tr>
<tr>
<td>Design Grants</td>
<td>5</td>
</tr>
<tr>
<td>Recycled Product Procurement</td>
<td>6</td>
</tr>
</tbody>
</table>

### Research & Development

![Image of carpet samples]
## R&D - Results

<table>
<thead>
<tr>
<th>Research &amp; Development</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Polymer/Construction Analysis</td>
<td>1</td>
</tr>
<tr>
<td>Rebate Incubation</td>
<td>2</td>
</tr>
<tr>
<td>Reuse Opportunities</td>
<td>3</td>
</tr>
<tr>
<td>Convenient Collection</td>
<td>4</td>
</tr>
<tr>
<td>Closed-Loop, Biomimicry, Cradle-to-Cradle, Green-Chemistry Design</td>
<td>5</td>
</tr>
<tr>
<td>Waste Characterization Study</td>
<td>6</td>
</tr>
</tbody>
</table>

Yellow = not included in Plan based on Council input

**CARE technical support will expand**

### Technical Assistance
**Technical Assistance - Results**

<table>
<thead>
<tr>
<th>Technical Assistance</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve RO quality and quantity; scale existing; identify new; support testing/infrastructure</td>
<td>1</td>
</tr>
<tr>
<td>Promote procurement of recycled content / recyclable products, EPP policies, SABRC, etc.</td>
<td>2</td>
</tr>
<tr>
<td>Support/accelerate recyclability advances, new technologies, R&amp;D (innovation, closed-loop, upcycling, biomimetic design, green chemistry)</td>
<td>5</td>
</tr>
<tr>
<td>Increase public drop-off locations at disposal sites</td>
<td>6</td>
</tr>
<tr>
<td>Increase # and type of secondary products using RO, upcycling, takeback and closed loop; support testing/infrastructure</td>
<td>7</td>
</tr>
<tr>
<td>Establish reuse programs</td>
<td>8</td>
</tr>
</tbody>
</table>

4 new FTE by end 2018 (CARE and/or contractors)

**Education & Outreach**
### E&O - Results

<table>
<thead>
<tr>
<th>Education &amp; Outreach</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Further raise awareness and change behavior</td>
<td>1</td>
</tr>
<tr>
<td>Expand target audiences, impact and reach</td>
<td>2</td>
</tr>
<tr>
<td>Support program initiatives with print, digital and social media content</td>
<td>2</td>
</tr>
<tr>
<td>Expand communications channels; increase sophistication</td>
<td>4</td>
</tr>
<tr>
<td>General public (consumer) more prominent as ↑ recycled products, ↑ collection service, ↑ reuse opportunities are available (Years 3-5)</td>
<td>5</td>
</tr>
<tr>
<td>Improve customer service and responsiveness</td>
<td>6</td>
</tr>
</tbody>
</table>

**E&O increasing to >$1,000,000 beginning 2018**
Models

Future projections  Economic  Financial  Cash flow and fund balance projections

Conversion Cost  Process profitability

- Guidance on subsidy setting
- Guiding assessment needs
- Guiding planning for future
- Continuing to refine
- Understanding markets

Guarantees & Controls
Guarantees

- Recycler Guarantee
  - 12 months
  - Pilots are new mechanism to act quickly, test, adjust

- Mill Guarantee
  - Plan average assessment as high as $0.38/sqyd
  - Assessment cap average $0.40/sqyd

Tiered Payouts

Changes possible due to AB 1158
# Tiered Payouts

<table>
<thead>
<tr>
<th>Tier 1 Processed Fiber</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate 1 pounds</td>
<td>1,000,000</td>
<td>Rate 1 subsidy</td>
<td>$0.120</td>
<td>$0.150</td>
</tr>
<tr>
<td>Rate 2 pounds</td>
<td>1,000,000</td>
<td>Rate 2 subsidy</td>
<td>$0.080</td>
<td>$0.100</td>
</tr>
<tr>
<td>Rate 3 pounds</td>
<td>1,000,000</td>
<td>Rate 3 subsidy</td>
<td>$0.050</td>
<td>$0.050</td>
</tr>
<tr>
<td>Rate 4 pounds</td>
<td>3,000,000</td>
<td>Rate 4 subsidy</td>
<td>$0.000</td>
<td>$0.000</td>
</tr>
<tr>
<td>Tier 2 - Non-Nylon</td>
<td>2017</td>
<td>2018</td>
<td>2019</td>
<td>2020</td>
</tr>
<tr>
<td>Rate 1 pounds</td>
<td>1,000,000</td>
<td>Rate 1 subsidy</td>
<td>$0.250</td>
<td>$0.280</td>
</tr>
<tr>
<td>Rate 2 pounds</td>
<td>1,000,000</td>
<td>Rate 2 subsidy</td>
<td>$0.200</td>
<td>$0.200</td>
</tr>
<tr>
<td>Rate 3 pounds</td>
<td>1,000,000</td>
<td>Rate 3 subsidy</td>
<td>$0.150</td>
<td>$0.150</td>
</tr>
<tr>
<td>Rate 4 pounds</td>
<td>3,000,000</td>
<td>Rate 4 subsidy</td>
<td>$0.000</td>
<td>$0.000</td>
</tr>
<tr>
<td>Tier 2 - Nylon 6 (PILOT)</td>
<td>2017</td>
<td>2018</td>
<td>2019</td>
<td>2020</td>
</tr>
<tr>
<td>Rate 1 pounds</td>
<td>1,000,000</td>
<td>Rate 1 subsidy</td>
<td>$0.100</td>
<td>$0.150</td>
</tr>
<tr>
<td>Rate 2 pounds</td>
<td>1,000,000</td>
<td>Rate 2 subsidy</td>
<td>$0.080</td>
<td>$0.100</td>
</tr>
<tr>
<td>Rate 3 pounds</td>
<td>1,000,000</td>
<td>Rate 3 subsidy</td>
<td>$0.060</td>
<td>$0.060</td>
</tr>
<tr>
<td>Rate 4 pounds</td>
<td>3,000,000</td>
<td>Rate 4 subsidy</td>
<td>$0.000</td>
<td>$0.000</td>
</tr>
</tbody>
</table>

*Changes possible due to AB 1158*

No changes

### Collections & Role of Installers

California Carpet Stewardship Program

An initiative of CCRE, California Retailers Association

Version 97 | page 373
Convenient Collection

- Goal is to have at least one Drop-off site in every county by end 2018
  - Currently 42 out of 58 counties*
- Funding a study by Cascadia: what does convenient collection mean for carpet?
  - Study completed by end Q2 2018
  - Once defined, develop a game plan for implementation
  - Completion of study is a Council recommendation

* A few counties have declined to participate and/or have a very laborious contract process to go through

State Map

- 70% of all carpet sold in top 10 counties by population
- 187 of 252 collection sites in top 10 counties
- Vast majority of carpet installations are professional
- >90% of CA population – their installers have access if they choose to (more education needed)
- Carpet is very different from paint, mattresses, tires, batteries or bottles this is why study is needed

Map shows number of sites per county
Convenient Collection

256
Sites Statewide

• **214** Private Service Sites
  - operate independent of CARE Program
• **42** CARE Public Drop-Off Sites
  - 74% increase in LBS collected in from public sites
  - 11 new public sites in 2016, 55% in S.CA, 91% in urban counties
  - Sites receive subsidized service: free container, transportation to processor/CSE, tip fees for receiving party, educational materials, support

### Convenient Collection – Study

*How do we support reasonably convenient collection (recycling)?*

- Understand primary generation points:
  1. Installers = majority of tear-out PCC handled by installers
  2. General contractors, laborers, Do-it-Yourselfers = less well understood, perhaps larger role for hard surfaces/remodels
- Consider various factors:
  1. Geographical distribution, distance to locations/population centers
  2. Location of retailers, distributors, disposal sites, supply houses
  3. Population density, urban/rural areas
  4. Role of private service collection
  5. Other factors
California Retailers

- 93% (1495) in-person and phone visits
- Collateral and customer info
- Assessment compliance
- Recycling awareness and drop-off sites

California Installers

- Tabling at supply houses
- Piloting onsite trainings at retailers in Sacramento & LA, expanded to other regions
- 30 trainings to date; 701 installers reached
- Surveying current practices
- Promoting carpet recycling practices & drop-off sites
Installer Training  Videos & CFI*
CARE Collaboration

- Curriculum for Installers
  - Drop-Off Sites
  - Tear Out Preparation
  - Benefits
  - Resources
- Hands-On Training
- Material Hand-Outs
- How-to Videos
  - English > 11K views to date
  - Spanish > 12K views to date

*International Certified Floorcovering Installers
AB 1158 Summary of Requirements

1. All existing requirements included
2. Goal: 24% RO by 1/1/20
3. Must quantify 5 year goal and annual goals
4. CR reviews every 3 year after 1/1/20
5. Supply all data necessary or CR to evaluate effectiveness of program
   - Per Plan and Annual Report
6. Cannot use funds to pay penalties or litigation against state
7. Cannot pay for kilns, WtE, incineration (in new Plan) or TRANSFORMATION
8. DGS: all state projects must be managed in a way consistent with carpet stewardship laws (not CARE)
9. DGS sets minimum PCC content specs for purchases by 1/1/18 (not CARE)
10. Must increase RO and decrease disposal = increase collection
11. Must increase collection convenience
12. Must expand and incentivize markets for products made from PCC

Green = actions CARE is currently doing
AB 1158 Summary of Requirements

13. Must increase processor capacity, including in CA
14. Must increase recyclability of carpet
15. Must describe measures that enable:
   • Source reduction
   • Source separation & processing to segregate & recover recyclable materials
   • Environmentally safe management of materials that cannot feasibly be recycled
16. Provide sufficient funds to cover:
   • Admin costs, operations, capital, fees, incentive payments, and
   • Incentives or grants to state-approved apprenticeships programs for training
     apprentices and journey-level installers in proper practices for recycling PCC
17. Incentivize materials with the “highest recyclability”
18. Must provide fair notice of changes (time)
19. Give CR 30 days notice of any significant or material changes
20. Annual posting of compliant manufacturers

Green = actions CARE is currently doing

AB 1158 Summary of Requirements

21. Advisory Committee appointed by Director including:
   • Environmental community
   • Solid waste industry
   • Local government
   • Public or private representative involved in collection, processor, recycling of PCC
   • One manufacturer representative
   • One union rep. from either SoCal or NorCal
   • Others as Director deems appropriate
   • Senate appoints one
   • House appoints one
22. Must submit Annual Report and Plans or changes to Advisory
    Committee 30 days prior to submission to CalRecycle
    • Incorporate recommendations or supply a written explanation why not
23. If Plan terminates or is revoked, a manufacturer may operate for 1
    year w/o penalties if they do one of following:
    • Operate under most recent Plan, OR
    • Provide an alternative Plan for their own products and CalRecycle approves

Green = actions CARE is currently doing
AB 1158 Implications

- What does CARE need to do to comply with AB 1158?
- Questions, Recommendations, Points of Clarification?
- Thoughts on Advisory Council
- Role of this Council vis-à-vis new Advisory Council?
Thank you!

2016 Pathway to a New Plan
Presentation to the Sustainable Plan Committee
California Carpet Stewardship Program
July 6, 2016
Update on Process

- Feb 24th Council Meeting #1
- March 8th and 10th Workshops
- March 23rd Council Meeting #2
- April 20th Council Meeting #3
- May 17th SPC Presentation
- June 15th SPC Update Webinar
- July 6th SPC Meeting
- June 22nd Council Meeting #4

Since June 15th:
- Council #4 - Priorities
- Final synthesis of strategies
- Modeling and budget scenarios

Overview

1. Review context, trends and projections
2. Present final synthesis of the Plan Strategies (Pillars)
3. Review Council input and priorities from meeting #4
4. Make decisions on funding scenarios for each Pillar
5. Identify areas of alignment:
   - in, out, more research needed
6. Identify budget/ranges for final analysis
7. Identify next steps to finalize Plan
What are we doing here?

1. **Working to increase:**
   - Recyclability
   - Reuse
   - Collection
   - Recycling (Recycled Output)
   - Diversion
   - Market Development (Recycled Carpet Content Products)

2. **Meet statutory and regulatory goals**
3. **Maintain control over the program**
4. **Maintain a robust and resilient carpet industry**

---

Order of Magnitude Difference

1. CalRecycle Regulatory Lens
2. Input of Stakeholders
3. Potential Competitive Plans
   - Integrate input of the Council
   - Continue current program offerings
   - Incorporate new service offerings
   - Increase total program budget
   - Include controls and flexibility
Developing a Self-Sustaining Market

Market-Based Solutions
1. Current carpet recycling ecosystem is not self-sustaining
2. We are representing 2 industries: Carpet & Recycling
3. Need targeted investment in each goal category
4. Catalyze and accelerate development in short-term
5. Reduce incentives and support over long-term
6. Long-term is beyond this 5 year plan
7. Avoid long-term forever increasing investments

Declining Incentives Over Time

California Solar Initiative Rebates
• The rebates automatically decline in “steps” based on the volume of solar megawatts (MWs) with confirmed project reservations within each utility service territory.
• The figure shows the expected schedule for rebate decline over time (10 years).

Source: http://www.gosolarchannel.ca.gov/csi/rebates.php
Goals & Requirements

<table>
<thead>
<tr>
<th>Statutory Goals</th>
<th>Program Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statutory:</td>
</tr>
<tr>
<td>1. Recyclability</td>
<td>7. Sufficient Funding Mechanism to Carry Out</td>
</tr>
<tr>
<td>2. Reuse</td>
<td>8. Include Education &amp; Outreach</td>
</tr>
<tr>
<td>3. Collection</td>
<td>9. Consult Stakeholders</td>
</tr>
<tr>
<td>4. Recycled Output</td>
<td>10. Manage All Polymer Types</td>
</tr>
<tr>
<td>5. Diversion</td>
<td></td>
</tr>
<tr>
<td>6. Market (Product)</td>
<td></td>
</tr>
<tr>
<td>Development</td>
<td></td>
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<td>Regulatory:</td>
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<tr>
<td></td>
<td>11. Reasonably Convenient Collection</td>
</tr>
<tr>
<td></td>
<td>12. Estimate Changes in Market Conditions</td>
</tr>
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<td></td>
<td>13. Anticipate CA Recycling Infrastructure</td>
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<td></td>
<td>CARE Priorities:</td>
</tr>
<tr>
<td></td>
<td>14. Functional &amp; Efficient System</td>
</tr>
<tr>
<td></td>
<td>15. Maintain Robust &amp; Resilient Carpet Industry</td>
</tr>
</tbody>
</table>

Must demonstrate continuous, meaningful improvement

Recyclability (part 1)

1. **Fundamental R&D to improve recyclability** (open to mills, Tier 2, universities)
   a. **Sustainability Study** (closed-loop, biomimicry, cradle-to-cradle, green chemistry)
   b. **Innovation Design Consultant** to identify opportunities
   c. **Innovation Design Grants** or Competitions ↑ recyclability, ↑ source reduction, ↑ recycled content

2. Promote carpet recycled content and recyclable products
Recyclability (part 1)

1. Pull-through subsidy adjustments (become own best customer):
   a. New Tier 2 nylon subsidies to drive nylon recycled product development
   b. Higher Tier 2 subsidy for carpet-to-carpet, upcycled/closed-loop products using RO
   c. Higher Tier 2 subsidy for products that offer a take-back program (or require)
   d. Higher Tier 1 subsidy for higher recyclability (e.g. tile) — readily recyclable but low capture rate

Reuse (part 1)

1. Micro grants ($2-5k) to establish reuse programs — combine with collection micro-grants program
2. Expand $0.10/lb reuse subsidy eligibility to processors & CSEs plus reuse centers, disposal sites, demo, etc.
3. Technical assistance to reuse centers, nonprofits, contractors & installers to establish reuse programs
4. Reuse R&D study barriers, sanitation, messaging market research
5. Cooperative purchase/sales mechanisms to increase reuse (e.g., web portals, broker, etc.) — combine with RO brokering assistance
Collection (part 1)

1. Increase **number of collection sites** (drop-off and retailers):
   a. **Public drop-off collection** service and technical assistance (paid storage, transport, tipping fees, education, dispatch, customer support)
   b. **Retailer technical assistance** to support new collection service – assumes service at or below landfill; interdependent with #2a

2. **Leverage existing solid waste and recycling network**:
   a. Continue & expand CSE subsidies ($0.02/lb) to demo, disposal sites, haulers, reuse centers, etc.
   b. **Collection micro grants** ($10-25k) for CSEs, processors, haulers, disposal sites, agencies, reuse centers, etc. (e.g., small equipment, containers, education, micro-phazers, etc.)

Collection (part 2)

3. **Capital grants** open to CSEs for large equipment and infrastructure

4. Increase **staffing/outreach to expand E&O** delivery to target audiences
   a. Increase **outreach to installers and contractors**
   b. **Operations** logistics and **customer service** support
   c. Build **partnerships with other stewardship** programs

5. Conduct feasibility study to define “**reasonably convenient collection**” to guide collection and control costs in years 3–5
Recycling (part 1)

1. Set subsidies to offset virgin vs. recycled feedstock cost:
   a. Link selected subsidy payouts to market indices
   b. Create differential polymer subsidy amounts tied to market indices
   c. Maintain economic model to adjust subsidies based on market conditions

2. Offer increased subsidy to priority areas:
   a. CA Businesses (reward material handled in CA)
   b. Carpet Tile vs. Broadloom (reward higher recyclability)
   c. Commercial Broadloom (difficult to recycle, longer processing time)
   d. Recycled Output quality for secondary products (adjust Type 1 & 2 Ash Content thresholds)

Recycling (part 2)

3. Innovation Grants for increased recycled output yield/efficiency

4. Continue and increase Capital Grants expand in-state capacity & throughput; reduce reliance on out-of-state processors & manufacturers

5. Continue and increase Technology and Product Testing Grants improve quantity or quality of recycled output

6. Increase CA staffing levels
Market Development (part 1)

1. **Offset virgin vs. recycled** prices; link to market indices
2. **Innovation grant for expanded new product** development
3. **Research and develop** new program component to drive recycled carpet content and recyclable product availability and procurement
4. Continue **capital, testing, procurement grants**, raise annual allocation and maximum awards

Market Development (part 2)

5. Offer **Tier 2 product subsidies** to increase use of carpet RO in recycled products:
   a. Continue **Tier 2 Non-Nylon subsidy & growth**
   b. Add **Tier 2 Nylon** subsidy (& growth)
   c. Add **Tier 2 Intermediate** products (differentiate pellets vs. finished products with lower payout)
   d. Add **Tier 2 Specialized** subsidies - Tile, CaCO₃ (split Tier 1 and 2), etc.
   e. **Priority subsidy** (extras $XX cents/lb) - carpet-to-carpet, upcycling/closed-loop, take back, CA, etc.
   f. **Surge subsidy** - accelerate uptake of new products or technologies
Market Development (part 3)

6. Increase staffing for market development (e.g., technical, commodities broker) —combine with reuse broker

7. Offer grants for mills and manufacturing (e.g., carpet-to-carpet, 1 nylon recycling, 1 recyclability/upcycling, 1 CaCO₃ use)

8. Promote SABRC, procurement and adoption of EPP policies for local governments and businesses

9. Leverage mills and manufacturing sales reps to educate retailers to educate consumers

10. Collaborate with GoBiz, RMDZ, DGS, CalRecycle to leverage resources, grants and support for CA facilities

11. Develop consumer facing recycled products web portal

Diversion (part 1)

1. All Subsidies for Reuse, Collection, RO, Tier 2, CAAF, Kiln

2. Innovation grants/awards (e.g., create competition between mills, encourage collaboration between participant groups)

3. Help manage inventory, maintain consistent volume flow in down markets
   a. Communities broker for recycled output: Facilitate diversion of non-recyclable components to export, Kiln/CAAF, or WTE within limits (Cap) as last resort (maybe with sunset clause)
   b. Develop strategic distributed storage network (require storage management plans for all participants; prevent high inventories, avoid landfilling of valuable materials, store until market rebounds, set clear limits and protocols)
Diversion (part 2)

6. Conduct waste characterization and market study on PCC material stream to identify all components, % of each, recycling/composting opportunities; use results to allocate resources or incentives

7. Add Tier 2 nylon subsidy for secondary products to create pull-through (mimic success of non-nylon Tier 2)

8. Offer differential subsidies for hardest-to-recycle materials (e.g., commercial carpet, CaCo3, natural fibers, etc.)

9. Hire economic analyst to identify economic indices and system so that factors can be adjusted over time

10. Targeted outreach to C&D facilities and contractors/installers increase/enforce separation, material preparation, and encourage reduced tipping fees

Questions

Council work product as of August 14, 2017

Please note: The content in Council Attachment 14 was prepared during summer 2016 through summer 2017 and was accurate as of the date of preparation; the content has not been revised to reflect subsequent deliberations or adjustments.
**Council Priorities Ranking [FULL LIST DETAIL – as of August 2017]**

- Column C shows Council Rankings from June 2016 Worksheets
- Column D identifies goal(s) supported by each priority
- Column E identifies finding(s) supported by each priority
- Column F identifies funding amount including in the Feb. 2017 (disapproved) Plan
- Columns G-K provide updated color coding and status detail based on current discussions in progress

**Color Key: (Column C)**
- Tactics included in the Plan; Funding at various levels (ORANGE)
- Next Top 3 Council Priorities NOT funded in the Plan (YELLOW)
- Other Council Priorities NOT funded in the Plan (GREEN or WHITE)

**Color Key: (Columns G, H, I)**
- Funded
- Under Consideration
- Dismissed

**Updated Info Based on Current Plan Discussions in Process >>>>
Note, all proposed changes subject to approval by SFOC**

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
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<tbody>
<tr>
<td><strong>Line ID</strong></td>
<td><strong>Rank by Strategy</strong></td>
<td><strong>COUNCIL RANK</strong></td>
<td><strong>GOAL</strong></td>
<td><strong>CR Finding</strong></td>
<td><strong>Funding Level (as proposed in Feb 2017 Plan)</strong></td>
<td><strong>Discussions in Progress for New (Oct 2017) Plan SUMMARY</strong></td>
<td><strong>Discussions in Progress for New (Oct 2017) Plan DETAIL</strong></td>
<td><strong>Status (Oct 2017 Plan)</strong></td>
<td><strong>New Funding (Oct 2017 Plan)</strong></td>
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<td>1</td>
<td>Themes (Emergent Concepts)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Funded</td>
<td>Being Considered</td>
<td>Dismissed</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Set subsidies to close gap between virgin and recycled feedstock, informed by market indices; continue to support collector/sorters, processors, and Tier-2 manufacturers</td>
<td>1</td>
<td>RO</td>
<td>1</td>
<td>$-</td>
<td>To be informed by Economic Model over course of the Plan; Current indicators from analysis suggest that gap between virgin and recycled may not be correct differential; New formula to be used and refined moving forward will examine differential between post-industrial, non-carpet recycled content and carpet RO</td>
<td>Annual Economic Model funding TBD; see prior Plan amount Line 97</td>
<td></td>
<td></td>
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<tr>
<td>3</td>
<td>Set assessment sufficient to fund program incentives, resources, and staffing to accomplish goals</td>
<td>2</td>
<td>ALL</td>
<td>1</td>
<td>$0.25/square yard</td>
<td>Agreement to increase assessment sufficient to fund the Plan; Budget to be submitted will be solvent; Effort to limit number of increases over the term with a maximum assessment value to be specified within the Plan.</td>
<td>$0.38/yd²; cap at $0.40/yd²</td>
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<tr>
<td>4</td>
<td>Develop and promote new recycled PCC products</td>
<td>3</td>
<td>MD</td>
<td>6,7</td>
<td>portion of TA and E&amp;O</td>
<td>X</td>
<td>Priority included within TA and E&amp;O budget line items; new The Reynolds Group Marketing Plan in development to support DoubleGreen™; increased consumer E&amp;O outreach to include Buy Recycled component especially in later years of the Plan; Grants to include recycled product development/ testing and recycled product procurement grant focus funding areas.</td>
<td>No precise dollar amount identified at this time, but will increase over 2017</td>
<td></td>
<td></td>
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<tr>
<td>5</td>
<td>Provide for reasonably convenient collection throughout CA; leverage existing solid waste and recycling networks</td>
<td>4</td>
<td>CC</td>
<td>1,3</td>
<td>$2,500,000</td>
<td>X</td>
<td>No update to the prior proposal at this time; Commitment to complete convenience study by end of Q1; process by which we will evaluate findings of study and implement changes to be defined in New Plan; New map illustrating both public and private sites developed in draft form, to be finalized for New Plan; Pilot underway to explore localized collection models; Collection micro grants to continue under New Plan</td>
<td>No change to budget from Feb Plan; Includes increase over prior Plan</td>
<td></td>
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<tr>
<td>6</td>
<td>Support resiliency by catalyzing in-state CA capacity and throughput; eliminate out-of-state incentives as adequate CA infrastructure is established</td>
<td>4</td>
<td>RO</td>
<td>2</td>
<td>$-</td>
<td>X</td>
<td>Considered both increased payouts for in-CA subsidy participants as well as reduced payouts for out-CA participants consistent with meeting RO targets; goal for grants include min 75% funds to CA companies</td>
<td>No specific budget</td>
<td></td>
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<tr>
<td>7</td>
<td>Offer differential subsidy levels linked to program priorities (e.g., ↑ carpet-to-carpet, ↑ nylon recycling, ↑ recyclability/upcycling, ↑ PC4 use, etc.)</td>
<td>6</td>
<td>RO, RA, MD</td>
<td>7,1</td>
<td>$-</td>
<td>X</td>
<td>Some under consideration; See Differential Subsidies section of this table beginning Line 21</td>
<td>Various, see Subsidies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Assistance to mills and manufacturers to improve recyclability (e.g., become our own best customer, ↑ carpet-to-carpet, ↑ upcycling)</td>
<td>7</td>
<td>RA</td>
<td>7</td>
<td>$-</td>
<td>X</td>
<td>In hands of mills; New Plan to incorporate Annual mill survey and CARE to include info in annual report to quantify mill level of investment in this category</td>
<td>Not funded</td>
<td></td>
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<tr>
<td>9</td>
<td>Support fundamental R&amp;D through innovation grants, research studies, testing grants, innovation awards, design competitions</td>
<td>7</td>
<td>RA</td>
<td>7</td>
<td>$-</td>
<td>X</td>
<td>Under consideration within grant element</td>
<td></td>
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### California Carpet Stewardship Plan 2018–2022

#### ATTACHMENT 15

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<tr>
<td>10</td>
<td>Increase program and operations staffing, outreach &amp; technical assistance sufficient for successful program implementation of all program elements</td>
<td>9</td>
<td>ALL</td>
<td>1,2,3,6, 7</td>
<td>+ 1 FTE</td>
<td>X</td>
<td>J</td>
<td>Additional staffing will be proposed in the new Plan</td>
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<td>11</td>
<td>Conduct feasibility studies and workshops to explore critical concepts (e.g. Rebates, Certification/Labeling, Collection Convenience, Waste Components, Reuse, Recyclability)</td>
<td>10</td>
<td>ALL</td>
<td>2,3,7</td>
<td>$-</td>
<td>X</td>
<td>J</td>
<td>Convenience Study funded; Reuse study and Discards formula study committed to in Feb 2017 plan; other studies are possible but no commitments are made at this time</td>
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### Subsidy Recipients

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<th>COUNCIL RANK</th>
<th>GOAL</th>
<th>CR Finding</th>
<th>Funding Level</th>
<th>Funded</th>
<th>Being Considered</th>
<th>Dismissed</th>
<th>Status (Oct 2017 Plan)</th>
<th>New Funding (Oct 2017 Plan)</th>
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<tr>
<td>13</td>
<td>Tier 1 Processor</td>
<td>1</td>
<td>RO</td>
<td>1,7</td>
<td>$20,000,000</td>
<td>X</td>
<td>No changes at this time</td>
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<td>14</td>
<td>Collector/Sorter Entrepreneur</td>
<td>2</td>
<td>CC</td>
<td>1,3</td>
<td>$-</td>
<td>X</td>
<td>No changes at this time</td>
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<td>15</td>
<td>Tier 2 Manufacturer</td>
<td>2</td>
<td>MD</td>
<td>1,7</td>
<td>$-</td>
<td>X</td>
<td>No changes at this time</td>
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<td>Disposal Sites (LF, TS, MRF, C&amp;D)</td>
<td>4</td>
<td>CC</td>
<td>1,3</td>
<td>(see collection program)</td>
<td>X</td>
<td>No changes at this time</td>
<td></td>
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<tr>
<td>17</td>
<td>Haulers</td>
<td>5</td>
<td>CC</td>
<td>1,3</td>
<td>not eligible for subsidies</td>
<td>X</td>
<td>No changes at this time</td>
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<td>18</td>
<td>Reuse Centers</td>
<td>6</td>
<td>RU</td>
<td>1,3</td>
<td>$-</td>
<td>X</td>
<td>No changes at this time</td>
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<td>19</td>
<td>Mills</td>
<td>7</td>
<td>RA</td>
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<td>$-</td>
<td>X</td>
<td>No changes at this time</td>
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<td>Retailers</td>
<td>8</td>
<td>CC, MD</td>
<td>1,3,7</td>
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### Differential Subsidies

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<th>COUNCIL RANK</th>
<th>GOAL</th>
<th>CR Finding</th>
<th>Funding Level</th>
<th>Funded</th>
<th>Being Considered</th>
<th>Dismissed</th>
<th>Status (Oct 2017 Plan)</th>
<th>New Funding (Oct 2017 Plan)</th>
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<tr>
<td>22</td>
<td>California-based businesses</td>
<td>1</td>
<td>RO, MD</td>
<td>2</td>
<td>$-</td>
<td>X</td>
<td>Considered both increased payouts for in-CA subsidy participants as well as reduced payouts for out-CA participants; Including options to reduce payouts to outside-CA participants beginning Yr3 consistent with meeting RO objectives</td>
<td>No specific budget</td>
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<tr>
<td>23</td>
<td>Recycling “difficult-to-recycle” fiber/material types such as commercial</td>
<td>2</td>
<td>RO, RA, MD</td>
<td>1,7</td>
<td>$-</td>
<td>X</td>
<td>X</td>
<td>Initial agreement by SPC on 8/1; additional discussion, refinement of amount, process in development</td>
<td></td>
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<tr>
<td>24</td>
<td>Material types with “highest recyclability” such as Carpet Tile</td>
<td>3</td>
<td>RO, RA</td>
<td>7,1</td>
<td>$-</td>
<td>X</td>
<td>X</td>
<td>Initial agreement by SPC on 8/1; additional discussion, refinement of amount, process in development</td>
<td></td>
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<tr>
<td>25</td>
<td>Tier 2 products that can be readily “upcycled” = designed to be recycled over and over again</td>
<td>3</td>
<td>RA</td>
<td>7,1</td>
<td>$-</td>
<td>X</td>
<td>X</td>
<td></td>
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<tr>
<td>26</td>
<td>Tier 2 “carpet-to-carpet” products</td>
<td>5</td>
<td>RA</td>
<td>7,1</td>
<td>$-</td>
<td>X</td>
<td>X</td>
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<tr>
<td>27</td>
<td>Ash Content – Change thresholds:</td>
<td>6</td>
<td>RO, RA, MD</td>
<td>1,7</td>
<td>$-</td>
<td>X</td>
<td>Not adopted at this time; may be revisited as informed by economic model, definitions committee, or market conditions over course of the Plan</td>
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<tr>
<td>28</td>
<td>• Type 1 to &lt;15%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>• Type 2 to 15-30%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>• Type 3 &gt;30%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Tier 2 products that offer “take back program” for recycling; products are labeled with recycling/recyclability information.</td>
<td>7</td>
<td>RA</td>
<td>7,1</td>
<td>$-</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>Top 10 Potential Subsidies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>Collector/Sorter Subsidy</td>
<td>1</td>
<td>CC</td>
<td>3</td>
<td>$0.02/pound</td>
<td>X</td>
<td>Continued at 2 cents; consideration of removal of quarterly and annual caps</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>Tier 1 – Type 1 RO</td>
<td>2</td>
<td>RO</td>
<td>1</td>
<td>$0.10/pound</td>
<td>X</td>
<td>Consideration of tiered payouts as RO increases, payouts per lb. decrease</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>Tier 2 – Non-Nylon</td>
<td>3</td>
<td>MD</td>
<td>1,7</td>
<td>$0.25/pound</td>
<td>X</td>
<td>No changes at this time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>Reuse Subsidy</td>
<td>4</td>
<td>RU</td>
<td>3</td>
<td>$0.10/pound</td>
<td>X</td>
<td>No changes to date; considered increases amount</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>37</td>
<td>Tier 1 – PC4 RO</td>
<td>5</td>
<td>RO, RA, MD</td>
<td>1,7</td>
<td>$0.17/pound</td>
<td>X</td>
<td>Consideration of tiered payouts as RO increases, payouts per lb. decrease</td>
<td>no change</td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>Tier 1 – Commercial RO</td>
<td>6</td>
<td>RO, RA, MD</td>
<td>1,7</td>
<td>$-</td>
<td>X</td>
<td>Initial agreement by SPC on 8/1; additional discussion, refinement of amount, process in development</td>
<td>+ X cents on commercial Tier 1, Type 1; some restrictions may apply</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>Tier 2 – Nylon</td>
<td>7</td>
<td>RO, RA, MD</td>
<td>7,1</td>
<td>$-</td>
<td>X</td>
<td>Initial agreement by SPC on 8/1; additional discussion, refinement of amount, process in development</td>
<td>Amount not yet identified; likely to be lower than non-nylon Tier 2; will be informed by new model</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>Tier 2 – PC4</td>
<td>7</td>
<td>MD</td>
<td>7,1</td>
<td>$-</td>
<td>X</td>
<td>Intermediate (pellets) considered Tier 2 under current procedures, CARE to codify in definitions, agreed to 8/1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>Tier 2 – Intermediate</td>
<td>9</td>
<td>MD</td>
<td>1</td>
<td>$-</td>
<td>X</td>
<td>No changes at this time; awaiting Definitions Committee guidance</td>
<td>3 cents</td>
<td></td>
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<tr>
<td>42</td>
<td>Tier 1 – Type 2 RO</td>
<td>10</td>
<td>RO</td>
<td>1</td>
<td>$0.03/pound</td>
<td>X</td>
<td>No changes at this time; awaiting Definitions Committee guidance</td>
<td>+ X cents paid to collector/sorters for collection; some restrictions may apply</td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>Tier 1 – Ash Content Adjustment RO</td>
<td>11</td>
<td>RO, MD</td>
<td>1,7</td>
<td>$-</td>
<td>X</td>
<td>Initial agreement by SPC on 8/1; additional discussion, refinement of amount, process in development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>Tier 1 – Carpet Tile RO</td>
<td>12</td>
<td>RO, RA, MD</td>
<td>1,7</td>
<td>$0.10/pound</td>
<td>X</td>
<td>Initial agreement by SPC on 8/1; additional discussion, refinement of amount, process in development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>Tier 2 – Carpet Tile (Carpet-To-Carpet)</td>
<td>13</td>
<td>RO, RA, MD</td>
<td>7,1</td>
<td>$-</td>
<td>X</td>
<td></td>
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<td></td>
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</tbody>
</table>

California Carpet Stewardship Plan 2018–2022
ATTACHMENT 15
<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>46</td>
<td>Differential Payouts (see description in previous table)</td>
<td>14</td>
<td>RO, RA, MD</td>
<td>7,1</td>
<td>$-</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>47</td>
<td>Tier 1 – Type 1 RO Bonus</td>
<td>15</td>
<td>RO</td>
<td>1</td>
<td>$-</td>
<td>X</td>
<td>Unfunded; deactivated as of Jan 2017</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>CAAF/Kiln – non-recyclable residues</td>
<td>16</td>
<td>DIV</td>
<td>1</td>
<td>$0.03/pound</td>
<td>REMOVED FUNDING</td>
<td>FUNDING TO DISCONTINUE AS OF JAN 2018</td>
<td>NO SUBSIDY</td>
<td></td>
<td></td>
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<tr>
<td>49</td>
<td>Tier 2 – Bonus</td>
<td>17</td>
<td>RO, MD</td>
<td>1</td>
<td>$-</td>
<td>X</td>
<td>Unfunded; deactivated as of Jan 2017</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>50</td>
<td>Grants</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>Capital Grants – Infrastructure/Capital equipment/investment</td>
<td>1</td>
<td>RO, CC</td>
<td>1,3</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>52</td>
<td>Product Testing – New product research, development and testing</td>
<td>2</td>
<td>MD</td>
<td>7,1</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>Research &amp; Development – Fundamental R&amp;D and testing</td>
<td>3</td>
<td>RO, RA, MD</td>
<td>7,1</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>54</td>
<td>Micro-Grants – Reuse/Collection Adoption</td>
<td>4</td>
<td>CC, RU</td>
<td>3</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>Design Grants – Innovation in Design</td>
<td>5</td>
<td>RA</td>
<td>7,1</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>56</td>
<td>Recycled Product Procurement – CA public agency procurement</td>
<td>6</td>
<td>MD</td>
<td>7,1</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>57</td>
<td>Research &amp; Development</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>58</td>
<td>Polymer/Construction Analysis</td>
<td>1</td>
<td>RA, MD</td>
<td>7</td>
<td>$-</td>
<td>X</td>
<td>Potential study area over term but no commitment; no specific funding allocated</td>
<td>Overall funding to be increased in new Plan; specific amount TBD;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>Rebate Incubation</td>
<td>2</td>
<td>RA, MD</td>
<td>7</td>
<td>$-</td>
<td>X</td>
<td>Potential study area over term but no commitment; no specific funding allocated</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>60</td>
<td>Reuse Opportunities</td>
<td>3</td>
<td>RU</td>
<td>3</td>
<td>$-</td>
<td>X</td>
<td>Commitment in Plan to complete, no agreed funded or timeline</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
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<td>---</td>
</tr>
<tr>
<td>61</td>
<td>Convenient Collection</td>
<td>4</td>
<td>CC</td>
<td>3</td>
<td>$-</td>
<td>X</td>
<td>Commitment in Plan to complete; new timeline by end of Q1 2018; evaluation of results, follow-up actions and implementation strategy not yet agreed to funding level or timeline for implementation</td>
<td>Convenience study is funded pre-contract</td>
<td></td>
<td></td>
</tr>
<tr>
<td>62</td>
<td>Closed-Loop, Biomimicry, Cradle-to-Cradle, Green-Chemistry Design</td>
<td>5</td>
<td>RA</td>
<td>7</td>
<td>$-</td>
<td>X</td>
<td>Potential study area over term but no commitment; no specific funding allocated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63</td>
<td>Waste Characterization Study</td>
<td>6</td>
<td>DIV</td>
<td>1,5</td>
<td>NOT IN PLAN ($0)</td>
<td>X</td>
<td>NOT IN PLAN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>64</td>
<td>Technical Assistance</td>
<td>COUNCIL RANK</td>
<td>GOAL</td>
<td>CR Finding</td>
<td>Funding Level</td>
<td>Funded</td>
<td>Being Considered</td>
<td>Dismissed</td>
<td>Status (Oct 2017 Plan)</td>
<td>New Funding (Oct 2017 Plan)</td>
</tr>
<tr>
<td>65</td>
<td>Improve RO quality and quantity; scale existing secondary markets; identify new secondary markets/products; support testing/infrastructure</td>
<td>1</td>
<td>RO, MD</td>
<td>7,1</td>
<td>Included below in market development staffing (Line 96)</td>
<td>X</td>
<td>Included as component of mkt dev TA current – TA staffing contractor at 0.75 FTE; additional resources and funding to be included in new Plan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>66</td>
<td>Promote procurement of recycled content / recyclable products, EPP policies, SABRC, etc.</td>
<td>2</td>
<td>RA, MD</td>
<td>7,6</td>
<td>$-</td>
<td>X</td>
<td>Currently being piloted in Regional Pilot areas; potential expansion in other areas over course of the Plan based on outcomes of pilot and available funding; funding level undetermined at this effort at this time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>67</td>
<td>Support retailers in obtaining collection service from service providers (assumes available at or below landfill with subsidies, education/support for easy yes)</td>
<td>3</td>
<td>CC</td>
<td>1,3,6</td>
<td>$-</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>68</td>
<td>Increase staffing for improved technical assistance in all program areas</td>
<td>4</td>
<td>ALL</td>
<td>1,2,3,6, 7</td>
<td>$-</td>
<td>X</td>
<td>New plan to include additional staffing/contractor resources</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>69</td>
<td>Support recyclability advances, accelerate adoption of new technologies (e.g. Niaga), support R&amp;D for innovation, closed-loop, upcycling, biomimetic design, green chemistry, etc.</td>
<td>5</td>
<td>RA, MD</td>
<td>7,1</td>
<td>$-</td>
<td>X</td>
<td>Considered; currently in the hands of mills; no specific funding support allocated under new plan although category remains as option under the new Plan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>Increase public drop-off locations at disposal sites</td>
<td>6</td>
<td>CC</td>
<td>1,3,6</td>
<td>$-</td>
<td>X</td>
<td>Supporting 58 site goal; expanded collection beyond this target to be considered based on the results of the convenience study to be completed by end of Q1 2018</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Education & Outreach

<table>
<thead>
<tr>
<th>COUNCIL RANK</th>
<th>GOAL</th>
<th>CR Finding</th>
<th>Funding Level</th>
<th>Status (Oct 2017 Plan)</th>
<th>New Funding (Oct 2017 Plan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ALL</td>
<td>6</td>
<td>$750K/ year, specific allocations to various specific E&amp;O tactics adjustable annually within available E&amp;O budget (included under staffing in line 95)</td>
<td>X</td>
<td>Increased funding to $1.3M/yr.</td>
</tr>
</tbody>
</table>

### Convenient Collection (Agree or Disagree)

<table>
<thead>
<tr>
<th>GOAL</th>
<th>CR Finding</th>
<th>Funding Level</th>
<th>Status (Oct 2017 Plan)</th>
<th>New Funding (Oct 2017 Plan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC</td>
<td>1,3,6</td>
<td>$-</td>
<td>X</td>
<td>$ -</td>
</tr>
<tr>
<td>CC</td>
<td>1,3,6</td>
<td>$-</td>
<td>X</td>
<td>$ -</td>
</tr>
</tbody>
</table>

### General public (consumer) more prominent as ↑ recycled products, ↑ collection service, ↑ reuse opportunities are available (Years 3-5)

<table>
<thead>
<tr>
<th>GOAL</th>
<th>CR Finding</th>
<th>Funding Level</th>
<th>Status (Oct 2017 Plan)</th>
<th>New Funding (Oct 2017 Plan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MD, CC, RU</td>
<td>6</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

### Improve customer service and responsiveness

<table>
<thead>
<tr>
<th># of Agrees (out of 13)</th>
<th>GOAL</th>
<th>CR Finding</th>
<th>Funding Level</th>
<th>Status (Oct 2017 Plan)</th>
<th>New Funding (Oct 2017 Plan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 (92%)</td>
<td>CC</td>
<td>1,3,6</td>
<td>$-</td>
<td>X</td>
<td>$ -</td>
</tr>
</tbody>
</table>

### Convenient Collection site per county beyond 2017

<table>
<thead>
<tr>
<th># of Collection site per county beyond 2017</th>
<th>GOAL</th>
<th>CR Finding</th>
<th>Funding Level</th>
<th>Status (Oct 2017 Plan)</th>
<th>New Funding (Oct 2017 Plan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 (92%)</td>
<td>CC</td>
<td>1,3,6</td>
<td>$-</td>
<td>X</td>
<td>$ -</td>
</tr>
</tbody>
</table>

### Convenient Collection retailers with collection service per county beyond 2017

<table>
<thead>
<tr>
<th># of Collection retailers with collection service per county beyond 2017</th>
<th>GOAL</th>
<th>CR Finding</th>
<th>Funding Level</th>
<th>Status (Oct 2017 Plan)</th>
<th>New Funding (Oct 2017 Plan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 (85%)</td>
<td>CC</td>
<td>1,3,6</td>
<td>$-</td>
<td>X</td>
<td>$ -</td>
</tr>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
</tr>
<tr>
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<td>-------------------------------------------------------------------</td>
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<td>--------------</td>
</tr>
<tr>
<td>83</td>
<td>CARE Infrastructure &amp; Staffing</td>
<td>COUNCIL RANK</td>
<td>GOAL</td>
<td>CR Finding</td>
<td>Funding Level</td>
</tr>
<tr>
<td>84</td>
<td>Leverage Existing Networks &amp; Cyclic Processes</td>
<td>1</td>
<td>ALL</td>
<td>n/a</td>
<td>$-</td>
</tr>
<tr>
<td>85</td>
<td>Scale, Build for Resiliency</td>
<td>2</td>
<td>CC, RU, RO, MD</td>
<td>n/a</td>
<td>$-</td>
</tr>
<tr>
<td>86</td>
<td>Strategic Storage Network</td>
<td>4</td>
<td>DIV</td>
<td>n/a</td>
<td>NOT IN PLAN ($0)</td>
</tr>
<tr>
<td>87</td>
<td>Sort/Transport for Recycling &amp; Dispose in Place</td>
<td>2</td>
<td>CC, RU, RO</td>
<td>n/a</td>
<td>$-</td>
</tr>
<tr>
<td>88</td>
<td>Proposed CARE staffing support tactics</td>
<td>COUNCIL RANK</td>
<td>GOAL</td>
<td>CR Finding</td>
<td>Funding Level</td>
</tr>
<tr>
<td>89</td>
<td>Compliance, reporting, data analysis, administration</td>
<td>1</td>
<td>ALL</td>
<td>1</td>
<td>$350,000</td>
</tr>
<tr>
<td>90</td>
<td>Subsidies management, oversight and administration</td>
<td>2</td>
<td>ALL</td>
<td>1</td>
<td>$1,006,000</td>
</tr>
<tr>
<td>91</td>
<td>Collections service, dispatch, operations, logistics, oversight</td>
<td>3</td>
<td>CC</td>
<td>3</td>
<td>$1,006,000</td>
</tr>
<tr>
<td>92</td>
<td>Financial assurances, fiduciary oversight, funds management/analysis</td>
<td>4</td>
<td>ALL</td>
<td>1</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>93</td>
<td>Grants management, oversight and administration</td>
<td>5</td>
<td>ALL</td>
<td>1,3,7</td>
<td>$125,000</td>
</tr>
<tr>
<td>94</td>
<td>Installer, contractor, builder, facilities relations</td>
<td>6</td>
<td>CC, MD</td>
<td>1,3,6</td>
<td>$-</td>
</tr>
<tr>
<td>95</td>
<td>Communications, marketing, education and outreach</td>
<td>6</td>
<td>ALL</td>
<td>6</td>
<td>$750,000</td>
</tr>
<tr>
<td>96</td>
<td>Market development and procurement oversight and administration</td>
<td>7</td>
<td>MD, RA</td>
<td>7</td>
<td>$149,000</td>
</tr>
<tr>
<td>97</td>
<td>Economic analysis, market monitoring, brokering</td>
<td>8</td>
<td>RO, DIV, CC</td>
<td>1,4</td>
<td>$60,000</td>
</tr>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
</tr>
<tr>
<td>----</td>
<td>-------------------------------------------------------------------</td>
<td>---</td>
<td>------</td>
<td>------</td>
<td>-------</td>
</tr>
<tr>
<td>98</td>
<td>Consumer relations, Council management, Customer service</td>
<td>9</td>
<td>ALL</td>
<td>1,2,6</td>
<td>$35,000</td>
</tr>
<tr>
<td>99</td>
<td>Government relations, state and local</td>
<td>10</td>
<td>ALL</td>
<td>1,2,6</td>
<td>$-</td>
</tr>
<tr>
<td>100</td>
<td>Rebate program management, oversight and administration (if initiated)</td>
<td>11</td>
<td>RA, MD</td>
<td>7</td>
<td>$-</td>
</tr>
<tr>
<td>101</td>
<td>Retailer/Mill relations</td>
<td>12</td>
<td>CC, RA, MD</td>
<td>1,2,6</td>
<td>$-</td>
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</tbody>
</table>

**Goal Key: (Column D)**
- RA = Increase Recyclability
- CC = Increase Gross Collection/Convenient Collection
- RU = Increase Reuse
- RO = Increase Recycled Output
- DIV = Increase Diversion
- MD = Increase Market Development

**Finding Key: (Column E)**
- 1 = Transparency, Getting to 26% RO, Recycling Capacity, Assessment, Installer Incentives
- 2 = Council, Stakeholder input
- 3 = Convenient Collection
- 4 = Cost Controls, 6-12 months Guarantee, Safety Valve, Assessment
- 5 = Discards formula
- 6 = Education & Outreach, Installer outreach, Drop-Off sites
- 7 = Closed-Loop, Carpet-to-Carpet, Recycled-Content Products, Standards, Recyclability, Upcycling
Attachment 16. SPC Response to Council’s 2017 Recommendations

Council work product as of August 3, 2017

Please note: The content in Council Attachment 15 was prepared during summer 2017 and was accurate as of the date of preparation; the content has not been revised to reflect subsequent deliberations or adjustments.
California Council on Carpet Recycling

SPC Response to Final Recommendations from the California Council on Carpet Recycling

In the interest of supporting a 5 Year Plan approvable by CalRecycle and following the Council’s meeting on 7-26-17, the Council made a series of recommendations to the SPC. Here are those recommendations and CARE’s response after detailed discussion with the SPC:

- All 6 grant priorities be funded and that we leave to CARE to decide the allocation of amounts. Further, we recommend that for any increase in the assessment, a percentage shall be allocated to grants.
  - SPC response: CARE agrees and supports this recommendation.
    - As of today, 5 of the 6 grant areas are either currently funded or will be in the new Plan.
    - The non-funded area is Design Grants (to mills). The new Plan will have a section addressing mill efforts to design new sustainable products including an annual aggregate estimate of funds invested. In addition, under the micro-grants program, CARE will consider academic challenge grants for innovation in the design space.
    - CARE has not yet addressed the percentage allocation request which will require financial evaluation before an informed decision can be made.

- CAAF/Kiln subsidy be removed from Plan.
  - SPC response: CARE agrees.
    - CARE will remove subsidies for CAAF/Kiln in the new Plan.
    - Also, CARE has never paid for landfill, incineration or WTE.

- Codify Pellets be included as a Tier 2 manufacturing end product.
  - SPC Response: CARE agrees.
    - Currently it is already a recognized as a viable way to qualify for a Tier 2 subsidy category.
    - CARE will codify this in our definitions.
    - In addition, this suggestion by the Council pointed to a need to have better definitions thus CARE has appointed a new Definition Task Group to look at: refining existing subsidy categories, strengthening testing protocols, generating examples for entrepreneur guidance, examining new opportunities if needed as they arise, and establish a review protocol for new requests.
• Turn on the Type 1 commercial broadloom lever for a higher-level subsidy at 2 cents. (12 cents total.)
  o **SPC response:** CARE agrees with this recommendation.
    ▪ CARE will look at starting a PILOT subsidy around June 2018. Final details to be developed, including a requirement that processor will need to buy from independent collectors and/or able to produce a discrete contract to enable tracking and verification.
    ▪ This would be a Type 1 output add-on subsidy for commercial broadloom only.

• Turn on Tier 2 Nylon 6 lever.
  o **SPC Response:** CARE agrees with this recommendation.
    ▪ CARE recognizes the pressure to improve the amount of N6 being recycled and plans to implement this subsidy, but we will first apply our new modeling tools.
    ▪ It will be several weeks before a subsidy level can be determined.
    ▪ After a level of subsidy is decided, a pilot program is most likely the approach for introduction to assess the viability and performance of the subsidy.
    ▪ CARE will let Council members know when we have reached a decision on level and timing.
    ▪ CARE also appreciates the flexibility a pilot approach can provide and will consider that during its analysis.

• Allow for pilot subsidies that will be evaluated after 6 months.
  o **CARE Response:** CARE agrees with this recommendation
    ▪ CARE agrees pilot programs allow for a more rapid response and, also timely adjustments as market feedback is obtained without being locked into a full year.

• Diversify SPC with additional California non-mill stakeholder representation, limited to 50% mill representation.
  o **CARE Response:** CARE appreciates the desire of this recommendation.
    ▪ However, it is the industry who is responsible to run the program.
    ▪ Massive changes are being brought forward in the new Plan which address virtually all concerns.
    ▪ CARE will, once the Plan is approved, appoint an additional non-mill California-based member to the SPC.
    ▪ CARE holds 4 regularly scheduled quarterly review meetings and will commit to convening two of those meetings each year in California beginning in 2018 (The SPC has met at least 3 times in California during 2017).

• Any significant changes to the Plan will be presented to the Council (CCCR) for review. Any recommendations from the Council not accepted must be explained in writing.
  o **SPC Response:** CARE agrees with your recommendation.
    ▪ Council recommendations are seen as very valuable information and CARE feels it is important to continue to work together with the Council, both when we agree as well as when there are differences of opinion.
    ▪ Communication of decisions will be strengthened going forward.
• Complete planned Convenient Collection Study and implement as appropriate.
  o **CARE Response:** CARE agrees with your recommendation.
    ▪ The Plan draft already includes funding for this study with an initial commitment to complete and review recommendations by end Q1 2018.
    ▪ CARE will share those findings and plan of action with the Council.

CARE received 9 recommendations from the Council. Eight of the recommendations have been adopted for implementation in the new Plan and the ninth recommendation will be implemented in part with a modification to the SPC composition as outlined above.

CARE and the SPC wish to acknowledge the excellent work of the Council and the commitment to find a path forward by working together.

# # #