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RE: Highest Recyclability Update – Chapter 0 Deliverable Requirement

The Highest Recyclability Definition Team of CARE’s SPC has met several times to refine and further define the term “Highest Recyclability”. The definition listed below has been determined by the team to be a good working definition that will enable CARE, using the more complex and already approved Highest Recyclability Table, to manage the idea of highest recyclability as defined in the legislation.

Pertinent points from the legislation:

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.”

Definition:

Highest Recyclability: In service to the recycling rate goal, products and carpet materials are evaluated in terms of these four key contributors to recyclability: volume availability, collectability, processability, and market demand. These key contributors are reflected in the criteria of the Highest Recyclability Matrix. Using the key contributors, products and carpet materials are compared against alternatives for the greatest existing (or potential) contribution to the recycling goals of the program and the state. Highest Recyclability is thereby attributed to the products and/or carpet materials with the greatest beneficial sum of these key contributors as expressed in the form of the Highest Recyclability Table.

The table referenced in the definition above (the Highest Recyclability Table) is Table 6 on page 116 of the Approved Plan (see below).

Because the concept of highest recyclability has many factors that impact its ranking over time, it is important to review the Highest Recyclability Table (Table 6) on a periodic basis. CARE will, by year end 2021, conduct an updated review of the Table to ensure it is remaining current. Because it is a complex subject, a review must be done with knowledgeable persons familiar with carpet recycling and CARE will form a Highest Recyclability Committee composed of knowledgeable and experienced professionals in the areas of recycling technology, business, and sustainable concepts to monitor and refine highest recyclability on an ongoing basis to remain consistent with Advisory Committee July 2018 recommendation 1.2. The work of this Highest Recyclability Committee will be shared with CalRecycle and the Advisory Committee. As established the Highest Recyclability Committee will meet periodically (no less than annually and before 2021 year-end) to further refine the criteria and evaluation of highest recyclability as technology and markets evolve.

It is worth noting that the highest recyclability definition is a product and carpet material focused definition and not a process focused definition. And it is also noteworthy that 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 the approved methodology for analyzing highest recyclability in the form of Table 6. This table was created and is consistent with the highest recyclability definition provided here.

As way of reminder, CARE developed the 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. The table presents the criteria that now support the definition of highest recyclability and evaluation against those criteria by type of products and/or carpet material. The Table incorporates criteria and value range adjustments based on input received from the Advisory Committee as well as consideration by CARE. It is noteworthy that all but one criterion proposed by the Advisory Committee for inclusion were incorporated and approved by CalRecycle. The 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.

A volume criterion (combining from the ideas of both Collectability and Market Demand) was used 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.

CARE continues to believe that 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.

Sufficiently available feedstock materials (the idea of Availability) are a primary consideration as well 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.

Table 6. Highest Recyclability Criteria (as extracted from the approved Plan)

SPC Composite Results w Weighting													
Highest Recyclability Criteria	Weight	Residential						Other	Commercial				
		N6	N66	PET	PTT	PP	Wool	PC4	Tile N6	Tile N66	B'Loom N6	B'Loom N66	B'Loom Wool
Ease of deconstruction*	15	105	105	105	105	105	105	75	150	150	30	30	105
Safely recycle all layer similar or higher mat'l perf.*	15	60	150	150	60	105	60	75	150	150	75	75	60
Cost effectiveness*	10	50	100	20	10	10	40	20	80	80	10	10	40
Energy saving*	5	20	25	45	45	45	45	10	45	45	20	20	45
Identification of resin type*	5	50	50	50	50	50	45	50	45	45	45	45	45
Extent of subsidy required	10	40	100	20	20	40	0	20	100	100	30	30	0
Reusability	5	10	10	0	0	0	15	5	50	50	15	15	15
Markets available for products:													
a. closed loop recycle back into carpet	10	100	0	0	30	0	0	0	100	100	0	0	0
b. non-carpet closed-loop (recycled multiple times)	10	30	60	60	60	60	0	30	100	100	0	0	0
c. downcycled (1-time)	10	50	40	40	50	40	0	90	0	0	0	0	0
Volume Available	5	30	15	15	5	15	0	45	35	20	20	20	0
TOTAL	100	545	655	505	435	470	310	420	855	840	245	245	310
Highest Recyclability v12 7-07-18													

* refers to items referenced in AB 1158.

Note the work on Highest Recyclability (HR) was suspended pending efforts on carpet differential assessments as it was not clear if or how the carpet differential assessment work would integrate with the HR review. It is now apparent that there is no conflict between the two efforts, thus the refined definition is consistent with the currently approved Table 6.

END

Appendix:

The following is being provided for Accessibility. The information is segmented out by material source (Residential, Other or Commercial). The data is identical to the image found on page 3 of this document.

Table 6. Highest Recyclability Criteria (**as extracted from the approved Plan**).

Category: Residential

Highest Recyclability Criteria (v12 7-07-18)	Weight	N6	N66	PET	PTT	PP	Wool
Ease of deconstruction*	15	105	105	105	105	105	105
Safely recycle all layer similar or higher mat'l perf.*	15	60	150	150	60	105	60
Cost effectiveness*	10	50	100	20	10	10	40
Energy saving*	5	20	25	45	45	45	45
Identification of resin type*	5	50	50	50	50	50	45
Extent of subsidy required	10	40	100	20	20	40	0
Reusability	5	10	10	0	0	0	15
Markets available for products:							
a. closed loop recycle back into carpet	10	100	0	0	30	0	0
b. non-carpet closed-loop (recycled multiple times)	10	30	60	60	60	60	0
c. downcycled (1-time)	10	50	40	40	50	40	0
Volume Available	5	30	15	15	5	15	0
TOTAL	100	545	655	505	435	470	310

Category: Other

Highest Recyclability Criteria (v12 7-07-18)	Weight	PC4
Ease of deconstruction*	15	75
Safely recycle all layer similar or higher mat'l perf.*	15	75
Cost effectiveness*	10	20
Energy saving*	5	10
Identification of resin type*	5	50
Extent of subsidy required	10	20
Reusability	5	5
Markets available for products:		
a. closed loop recycle back into carpet	10	0
b. non-carpet closed-loop (recycled multiple times)	10	30
c. downcycled (1-time)	10	90
Volume Available	5	45
TOTAL	100	420

Category: Commercial

Highest Recyclability Criteria (v12 7-07-18)	Weight	Tile N6	Tile N66	B'Loom N6	B'Loom N66	B'Loom Wool
Ease of deconstruction*	15	150	150	30	30	105
Safely recycle all layer similar or higher mat'l perf.*	15	150	150	75	75	60
Cost effectiveness*	10	80	80	10	10	40
Energy saving*	5	45	45	20	20	45
Identification of resin type*	5	45	45	45	45	45
Extent of subsidy required	10	100	100	30	30	0
Reusability	5	50	50	15	15	15
Markets available for products:						
a. closed loop recycle back into carpet	10	100	100	0	0	0
b. non-carpet closed-loop (recycled multiple times)	10	100	100	0	0	0
c. downcycled (1-time)	10	0	0	0	0	0
Volume Available	5	35	20	20	20	0
TOTAL	100	855	840	245	245	310

All items marked with an asterisk are referenced in AB 1158.