

## CARE California Carpet Stewardship Plan Comments November 2013



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To the Carpet Team at CalRecycle and Carpet America Recovery Effort (CARE) –

First let me congratulate you on your efforts during the initial years of the implementation of the ground-breaking AB 2398. Much progress has been made but also lessons learned by all that should result in improved results moving forward.

I have personally been closely involved with AB 2398 as a Vice President with The Carpet Recyclers (TCR) in La Mirada CA from November 2010 until the facility closed in March 2013. My responsibilities included being the primary contact with CARE, having lead responsibility for AB 2398 funding requests, setting up internal systems to ensure compliance with CARE audit requirements and also securing facility permits and developing programs to meet local and state environmental, health and fire protection regulatory requirements.

I no longer have any connection with The Carpet Recyclers (TCR) or their parent company GF Industries. My comments provided here are informed by my own lessons learned witnessing the courageous but eventually unsuccessful efforts to save TCR. Therefore, the following comments are my own and do not represent the views of my former employer.

XT-Green is a private investment firm presently funding the technology development/ testing and design of a world-class, multi-location, high-recycling rate carpet recycling facility planned for both Northern and Southern California to be called *EarthCare Carpet Recycling*. I am serving as the team leader for this effort. Permit applications and construction are planned for 2014.

The goals of XT-Green's carpet recycling effort in California include:

- Develop facilities with highest recycling rates and zero waste to landfill goals. Optimize resources of carpet processed.
- Utilize harvested resources in California (and local communities if possible).  
Note: With exception of Reliance carpet cushion, former and existing California carpet recyclers ship all recycled output out of state and overseas.
- Support the increase of California carpet diversion and recycling rates by increasing the value of recovered resources from the processed carpet.
- Create quality California jobs that pay a living wage and provide profit sharing.
- Produce significant environmental benefits and reduce greenhouse gases through replacing virgin petroleum-based raw materials.

- Provide a safe and healthy working environment for employees and surrounding community and environmental protection from our operations.

Although the XT-Green team is passionate about the environmental and California job generating benefits of carpet recycling, this effort will be put on hold if the company is not confident that we will be able to secure adequate recyclable carpet for processing. These concerns (discussed in these comments) are due to the rapidly-contracting carpet collection infrastructure in California and expanding export of post-consumer nylon carpet overseas.

XT-Green commends Carpet America Recovery Effort (CARE) for the improvements in their new revised California Carpet Stewardship Plan and CalRecycle's efforts in monitoring their progress. However, XT-Green believes that the Plan does not adequately lay out a program to:

- 1) Meet the statutory requirements of AB 2398
- 2) Reach CARE's defined recycling goals of 16% by 2016, especially relative to ensuring the viability of the California collections infrastructure
- 3) Drive technology forward with the goal of increasing recycling rates and reduce greenhouse gas emissions
- 4) Support the carpet recycle challenges of local and regional governments
- 5) Focus on the creation of California Jobs

Therefore, based on these issues and the following detailed comments, XT-Green requests that CalRecycle reject the new revised CARE California Carpet Stewardship Plan

I sincerely want to bring a new world-class carpet recycling facility into California that will keep the resources recovered in our beautiful state, create quality green jobs and help reduce greenhouse gases. But I can't advise XT-Green to move forward on this project unless there are changes in the Plan to incentivize innovation, increase collections and stop exports.

Please feel free to ask any questions or request additional information regarding the following comments. I look forward to sharing more details regarding the proposed XT-Green facility at the December 11<sup>th</sup> meeting.

Regards –

*Gail Brice*

Gail Brice, Vice President  
XT-Green (dba EarthCare Carpet Recycling)

## **CARE California Carpet Stewardship Plan Comments November 2013**

XT-Green commends the many good changes in “new revised” CARE California Carpet Stewardship Plan submitted in October 2013 Plan including the following:

1. Hired a Project Manager for the Stewardship Program based in California.
2. The following efforts regarding resolving the non-nylon carpet problems i.e. mostly polyester/PET. (Although good first steps, as later discussed XT-Green believes these are inadequate to meet program goals and support the collection infrastructure).
  - a) Incentivizing the market growth of secondary products made from post-consumer non-carpet with a \$.12 per pound of output payment.
  - b) Commitment of research grants to California University to study improvements in carpet recycling.
  - c) Hiring a part-time national CARE Program Manager to facilitate recycling efforts of non-nylon carpet (Frank Endrenyi).
3. The elimination of CARS as a recycling option for funding.
4. Implementation of a “growth bonus plan” for processors (a good first step regarding major problems with collection issues discussed below).

### **Problems, concerns and suggested changes to the “new revised” CARE Plan**

The following provides page-by-page comments regarding the new revised CARE California Carpet Stewardship Plan issued in October 2013. In addition to identifying problems and concerns, solutions are also proposed. These comments have been developed based on the information provided in the CARE plan and four years personal experience in carpet recycling.

#### **Pages 3 – 8 Executive Summary Comments**

The following is the list of the primary concerns with the Executive Summary. Additional comments and proposed solutions are provided in the Detail Sections.

1. The Plan needs to have additional incentives to ensure the success of the program.
2. The \$.05/square yard assessment fee and the current reserves are inadequate to fund the needed additional incentives.
3. The new non-nylon incentives included in the Plan are needed but may be inadequate as a timely solution to meet the 2016 Plan goals and minimize the major impact to the collections infrastructure due non-nylon carpet.

4. The Plan does not adequately document the ability to reach the recycling output goal of 16% by 2016. It presently relies too heavily on the success of the non-nylon incentives.
5. The “outstanding result” of 112 M pounds “diverted” from landfills should actually be termed “collected” per the definitions in Attachment III as it includes a large amount of material that was returned to landfills as non-recyclable PCC and process waste.
6. The 14% 2012 “recycled output” needs to be corrected as it includes an estimated 10 million pounds of CARS in the Type 2 estimate, all of which has been land filled.

This correction reduces the “recycled output” for 2012 from the 48 million pounds listed in Table 1 to 38 million pounds. This reduces the 14% recycled output to 11.1% which should be viewed as the baseline for reaching the 16% 2016 recycled output goal.

7. The Executive Summary states that CARE wants to “grow diversion” which should be “collections” or “recovered” as they are discussing post-consumer carpet (PCC) that includes material that will eventually be sent to landfill.

The “growth” noted is just an increase from 113 million pounds in 2013 to 116 million pounds in 2013, only 3 million pounds (or less than a 1 month supply of recyclable carpet needed for a carpet processing facility). This “growth” can be increased by adding incentives for collectors as discussed in detail in these comments.

8. A major premise CARE Carpet Stewardship Plan is the assumption that the primary driver to increase the recycling output rate to 16% in 2016 is the increase in the utilization of polyester (PET) as recycled content due to the new Plan initiatives.

XT-Green applauds this effort especially as the % of the difficult-to-recycle PET carpet is increasing rapidly from 30% to an expected 50% of residential carpet by 2016. Because PET carpet is pulled out of homes and apartments at a faster rate than nylon, the % of non-nylon carpet in the waste stream is also expected to reach 50% by 2016.

However, the optimism of the CARE Plan regarding non-nylon/PET solutions is contrary to their own PET Program Manager Frank Endrenyi who stated in October 2013 that significant PET solutions are probably 2 years off at best i.e. 2016 Therefore, to rely on non-nylon/ PET recycling as a substantial component toward reaching the 16% recycled output goal by 2016 is of concern, especially as it significantly impacts the viability of the collection infrastructure in California and across the U.S..

9. The data provided regarding the existing carpet processing and collection infrastructure are incorrect which makes the job numbers suspect along with the assumption that 98% of the California population has access to carpet recycling.

10. The growing problem regarding the export of whole nylon post-consumer carpet is not mentioned in the Executive Summary or in the CARE Plan details. An incentive program for the collectors needs to be included in the Plan to help stop this loss of resources which could severely impact the viability of carpet recycling/processing in California, including the planned multiple XT-Green facilities.

The following additional page-by-page comments address the issues above in more detail and also provide suggested solutions as proposed changes in the CARE Plan.

**Page 9            Definitions need to be used consistently.**

For the purposes of the Plan, the definitions used are included in Attachment III. These include:

**Collected:** Gross pounds of CA PCC collected (total includes material that may be eventually be sent to landfill)

**Diverted:** Actual PCC removed from the waste streams for reuse, recycle, CAAF or WtE (Collected pounds minus PCC and process waste pounds that ultimately goes to landfill from processors or collectors.

**Recovered:** Gross pounds of CA PCC collected (this includes unrecyclable PCC carpet or carpet processing waste that may be eventually sent to landfill).

These terms are often incorrectly used in the CARE Plan, which leads to confusion and incorrect conclusions. These will be identified in these comments.

Additionally, part of the “success” of this program is often reported in Press Releases as the amount of material “diverted” when it’s actually “collected” or “recovered” (which seem to be almost interchangeable terms). This is important due to the large amount of non-recyclable PCC and process waste that is returned to landfills therefore until these are reduced, CARE reports should use the term “collected” rather than “diverted” when the amounts include material that will eventually go to landfill.

**Suggested Changes in the CARE Plan to eliminate confusion with terms:**

- **Clarify the difference between “collected” vs. “recovered”**
- **Correct the terminology used corrected in the CARE Plan, especially eliminate the use of “diverted” to refer to amounts that includes collected PCC and process waste that will eventually be land filled.**

**Page 9            Background Section**

The “Background” section should include the different types of carpet waste i.e. commercial broadloom, carpet tiles (some recyclable, some not) and residential carpet. The % of residential vs. commercial should be provided along with the recycling challenges associated with commercial broadloom (e.g. the glue used to install the carpet) and non-recyclable carpet tiles. This will make it clearer that, besides the non-nylon/PET recycling challenge with residential carpet, there is an additional component of the discarded carpet that is also problematic.

This Section includes the statement “*Today, it is estimated that up to 30-40% of post-consumer carpet by weight can be cost-effectively recycled. The remaining materials currently have little or no value in the market place.*” *The Carpet Recyclers* had a +70% recycling rate because of the company recycled Type 2 as well as Type 1 material. XT-Green’s EarthCare Carpet Recycling has even higher recycling goals. These can be accomplished with minor changes in the incentive structure for Type 2 discussed below that can increase the recycling rate dramatically.

**Suggested Changes in the CARE Plan to address issues in Background Section:**

- **Include information regarding the different types of carpet waste**
- **Note the recycling challenges of commercial broadloom carpet**
- **Don’t assume rates such as the 30-40% as if they are maximum results when they can be increased by the use of the AB 2398 incentives.**

**Page 10 Carpet Fiber Identification**

The Plan cites CARE’s accomplishments in developing an IR-technology to identify the type of carpet fiber. It should be noted that the cost of this equipment is \$18,000+ per unit which severely impacts the carpet collection infrastructure. Solutions to this problem are addressed later in these comments along with proposing that all carpet sold into California has the fiber type stamped on the backing.

**Suggested Changes in the CARE Plan regarding carpet fiber identification:**

- **Note the cost of this equipment as a limitation to its use in California**
- **Implement the suggestions provided later in these comments regarding ways to help overcome the carpet fiber identification issue**

**Page 12 Controls on discretionary incentive fund.**

The CARE Plan has included a “discretionary incentive fund” for innovative and breakthrough technologies. As noted later in the CARE Plan “the financing mechanism shall not create an unfair advantage in the marketplace.” The discretionary incentive fund is a good idea but it should be noted that it was this type of discretion that resulted in the funding of CARS which:

- 1) Helped create a 32 million pound pile of illegally disposed PET carpet and other carpet waste behind the Carpet Collectors facility in Sacramento.
- 2) Resulted in a significant amount of funding inappropriately paid to the Carpet Collectors which is now trying to be recovered by CARE.
- 3) Created an “unfair advantage in the marketplace” for securing PCC by allowing the Carpet Collectors to defer disposal costs and receive additional working capital of unqualified AB 2398 funds. This unfair advantage contributed significantly to the problems *The Carpet Recyclers* experienced securing adequate carpet which eventually was a major factor in closure of their La Mirada carpet recycling facility.

## **Suggested Changes in the CARE Plan regarding discretionary funding:**

- **CARE Plan should address the type of vetting that will be used prior to issuing these discretionary funds especially relative to creating an unfair advantage in the marketplace and providing environmental protection. This is especially needed due to the pressure to create solutions for PET.**

### **Page 13 Documenting the road to 16% recycled output in 2016**

The AB 2398 statute requires “continual improvement toward achieving recycling goals.” The stated CARE Plan recycling goal is 16% recycled output by 2016. The following raises concerns regarding whether this Plan has adequately demonstrated that the program and incentives proposed will be adequate to reach these goals.

#### **Present Status impacting 2016 Goals:**

- a) The CARE Plan says that they will go from a 2012 recycling rate of 14% to 16% in 2016. But as noted previously the recycling rate for 2012 was actually 11.1% when you remove the “CARS” Type 2 numbers. Therefore, rather than increasing the recycling rate by 2% from 2012 to 2016, the incentives in the CARE Plan need to actually increase the rate by 4.9%.

Note: The 32 million pounds of CARS material and other waste behind the Carpet Collectors’ facility have been recently disposed in a landfill and therefore clearly not eligible to be included as “recycled output” results for 2012.

- b) Since 2012, *The Carpet Recyclers* and the Carpet Collectors processing facilities have closed. Therefore, the capacity to process carpet and generate recycled output has been reduced significantly in California.
- c) PCC is primarily generated from the installation of new carpet which has significant seasonal fluctuations. Therefore, comparing same quarters from year to year provides important information regarding whether carpet recycling results are trending up or down.

Comparing the most recently-reported Q2 2013 with Q2 2012 shows that the recycling output rate has gone down from 11.3% to 10.8%. This is especially of concern as Q2 2012 includes the last quarter of Carpet Collectors.

Q3 2013 results have not yet been release but preliminary reports from CARE state that compared to Q2 2013, collections are slightly up but that recycling output is flat. This would indicate that either more material is going to landfill or is being exported rather than being turned into recycled output. Also, as new carpet installation is seasonal, Q3 2013 should be also be compared to Q3 2012 which had the highest collections and one of the highest recycling rates in the history of the program.

- d) Plan does not address growing export of whole nylon carpet overseas and its significant impact on recycling output. Note: Under no circumstances should the recycling of whole carpet overseas be included in future AB 2398 totals. See later discussion regarding the environmental impact from unregulated carpet recycling.

Based on above, it would appear that the recycling output rate and the available carpet recycling processing capacity is going in the wrong direction. If CARE Plan claims that they are trending up, they should include a discussion as to how this can be the case with the closure of 2 of the 4 carpet processing facilities in California. Have the remaining two facilities increased production? Is additional material going out of state?

The Plan should also address: What is the remaining capacity of the existing processing facilities? Can they meet the 16% recycling goal, especially as the % of difficult to recycle PET is rapidly increasing in the waste stream (presently 30%, projected to be 50% by 2016).

The CARE Plan should include an analysis (similar to the CalRecycle 75% Plans) that addresses carpet processing capacity (both in and out of California) vs. Plan goals.

The quarterly reports also need to be more transparent regarding the number of processing companies that are participating in the AB 2398 program. Company confidentiality can be maintained regarding totals, but if numbers are trending down (from an original 11 companies to an estimated 5 at present) this needs to be addressed. Also, if the participants accept only a component of the waste stream (e.g. recyclable carpet tiles or nylon 6 carpet) this is also important information that should be provided in the quarter reports and the CARE Plan.

#### **Suggested Changes in the CARE Plan regarding carpet processing capacity:**

- **Address the concerns above regarding the present status of carpet processing capacities and trends**
- **Identify the % of out-of-state carpet processing and whether it is increasing or decreasing and its impact on California processors and jobs**
- **Evaluate the existing capacity for carpet processing relative to the requirements for meeting the 2016 goals**
- **Commit to making the Quarterly Reports more transparent while maintaining confidentiality**

The following takes a closer look at ...

#### **How the CARE Plan says they are going to reach the 16% recycling output goal:**

Per the CARE Plan -

- a) Carpet discarded will remain relatively constant at 357 M pounds in 2016
- b) PCC diverted will only increase from 113 in 2013 to 116 M pounds in 2016 but...
- c) The recycled output from the diverted carpet will increase from 40 M pounds (35.4%) in 2013 to 57 million pounds (49.2%) in 2016.

To do this the CARE Plan will need to reduce the “recovered” carpet that currently is:

1) Returned to landfill as:

- Non-recyclable whole carpet (all the non-nylon carpet, mostly PET) that is presently not going into LA Fiber/Reliance Carpet Cushion in Vernon CA.
- Trash and process waste (including the Type 2 filler in used carpet that no one is currently recycling)

2) Whole nylon carpet shipped overseas (see later export comments)

Note: This is listed incorrectly as “diverted” on Table 1 as the amount land filled/cement kiln/WTE of 300 million pounds includes 59 pounds of waste from carpet that was “recovered”.

It’s understood that CARE believes that the primary driver for reaching the 16% recycling goal will be the success of the PET incentive program. As discussed in greater detail later in these comments, XT-Green is concerned that California (and the rest of the U.S.) presently does not have the infrastructure or timely enough solutions for the PET carpet problem to reach this goal.

Note: The CARE Plan says that to reach goal of 24% recycled output by 2020 will require three (3) new PCC processors coming on line by mid – 2015. We understand that this includes the XT-Green proposed facilities. As discussed in these comments, these facilities are dependent on the implementation of a CARE Plan that will support collections and stop exports.

Additional information is provided on Page 16 comments regarding Trends.

**Suggested Changes in the CARE Plan regarding reaching 16% goal:**

- **The discussion above was developed by studying the Tables in the CARE Plan. The Plan needs to clearly identify the proposed path towards the 16% which includes a minimal commitment to increased collections and a major dependence on the increase in PET recycling to reach goals.**

**Page 14 Consistency of Terms.**

Table 1 lists estimated discards, “diversion” and the recycled output. Diversion should actually be referred to as “collected” or “recovered” as it includes the non-recyclable PCC that is returned to landfill and the processing waste. Any numbers reported as “diverted” needs to subtract out these numbers.

As noted earlier, this consistency in terms also needs to be utilized in press releases touting the success of AB 2398. At the release of the 2012 CARE annual report, CARE reported that 112 million pounds of carpet was “diverted” from California landfills. This total included 59 million pounds of non-recyclable carpet set to landfills prior to processing and significant amounts of processing waste plus an additional 10 million pounds of CARS material send to landfills.

As the general public (and the terms listed in the CARE Plan) would assume that “diverted” meant this material was kept out of landfill when the reality was that only 38 million pounds of this material became recycled output (when the totals are reduced by 10 million pounds of land filled CARS). Using the term “diverted” for “collected” or “recovered” is very misleading and does not represent the status of the current program and the needs for improvement.

**Suggested Changes in the CARE Plan regarding terminology:**

- **Replace “diverted” with either collected or recovered in Table 1**
- **See earlier suggested changes regarding consistency of terms**

**Page 14 Present destination of California carpet material.**

The following takes a look at the 2013 projected results to provide insight into where the California discarded carpet is presently going at this time.

Per Table 1:

Estimated Discards	347 M pounds
“Diversion” (actually Recovered)	113 M pounds
Recycled Output	40 M pounds
Recovered Material that was not recycled (113 minus 40)	73 M pounds
Discards that were not collected (347 minus 113)	234 M pounds
Material not recycled (73 + 234)	307 M pounds

Per Table 1, this 307 M pounds of material was supposedly all disposed through feedstock to Cement Kilns (1 million pound), WTE (5 million pounds) and land filled (301 million pounds).

However based on the following Q2 2013 quarter report a significant amount of material is actually being exported out of the U.S.:

**Q2 2013 Results:**

Total Carpet Discarded	93.5 Million Pounds
Total “Recovered” (collected)	21.5 Million Pounds (23%) but of this...
Total Recycled Output	10.8 Million Pounds (11.5%)
Recovered Material Returned to Landfill	<u>6.5 Million Pounds</u>
	17.3 Million Pounds
Unaccounted Material “Recovered” (collected) (21.5 M less 17.3 M)	4.2 Million Pounds (exported)

According to a conversation between XT-Green and a California processor this 4.2 million pounds of “unaccounted material” was exported whole nylon carpet. As discussed later, the amount of export is significant in California from the processors and independent collectors.

**Suggested Changes in the CARE Plan regarding material destination:**

- **CARE has added “recovered material returned to landfill” into their quarterly reports. The AB 2398 reporting form breaks out non-recyclable carpet returned to landfill and processing waste returned to landfill, as this Plan relies on the reduction of both of these to reach 16%, this information should be broken out and provided in the Quarterly Reports.**
- **The AB 2398 reports are material balances and include a line item of “whole carpet shipped out of the country” this export number should be included in the Quarterly Reports.**
- **See later comments regarding changes to address exports.**
- **CARE uses “recovered” as the collection term for Quarterly reports. Again, there must be consistency in terminology in order to measure progress.**

**Page 16      Type 2 incentive program**

Table 2 shows a major reduction in Type 2 recycled output from 2012 to 2013 due to the removal of CARS as an approved processing method. The Table also identifies the recycled output of Type 2 output increasing from 4 million pounds in 2013 to 8 million pounds in 2016.

However in 2013, according to the Quarterly reports, the amount of Type 2 recycling actually dropped from .4% to 0% from Q1 to Q2 2013. This was apparently due to the closure of *The Carpet Recyclers* who were able to cost-effectively recycle a significant portion of its Type 2 recycled output due to synergies with other recycling programs by their parent company.

Based on the present 0% recycling rate of Type 2 material shown for Q2 2013, unless CARE can present some information to the contrary as to why 8 million pounds of Type 2 material (14% of the total) will somehow be recycled in 2016, it should be acknowledged that the incentive program of 3 cent per pound is not sufficient for this material which makes up 40% of PCC carpet. A proposed solution to this problem is provided later in these comments.

**Suggested Changes in the CARE Plan regarding Table 2:**

- **The CARS component of the Type 2 recycled output for 2012 should be taken off Table 2**
- **A discussion should be provided as to how the Type 2 recycled output will reach 4 Million pounds in 2013 when Q2 results were 0 pounds. And additionally, how this output will increase to 8 million pounds by 2016 with no additional incentives.**

**Page 15 Additional Comments on “Trends”**

It’s stated that “good progress” is being made over the 8 quarters because the “increasing slope” of recovered and recycled material. However, Figure 1 actually shows a decreasing slope at the end of Q2 2013. CARE explains this by noting the seasonal carpet selling fluctuations that impact quarter to quarter comparisons. However, when you compare Q2 2012 with Q2 2013 you still get the following additional “decreasing slope” results:

	Q2 2012	Q2 2013	Difference
Recovered	27 M pounds	21.6 M pounds	- 1.6 M pounds
Recycled	11.3 M pounds	10.8 M pounds	- .5 M pounds

**Suggested Changes in the CARE Plan regarding trends:**

- **Assess the “good progress” comment to determine whether it is valid.**

**Page 16 - 17 Road map to 16% by 2016 (continued)**

The CARE Plan notes that they cannot identify a technology path to exceed a 16% recycling rate by 2016. But has this Plan identified a path adequate to reach the 16%?

Per Table 1, from 2013 to 2016 CARE is projecting:

1. The estimated discards will only increase from 347 to 357 million pounds
2. The “diversion” (should be collected or recovered) will only increase from 113 to 116 million pounds
3. But recycled output will increase from 40 to 57 million pounds.

The CARE Plan provides a list of ways that the 16% goal will be reached. Good ideas are included but no clear roadmap, resources or timelines provided to get this to happen. This list to increase diversion (actually “collections”), does not include incentives to solve the rapidly contracting collection infrastructure in California that is addressed later in these comments.

The list to increase recycling output is identified as “will likely arise from...” this Plan needs to include programs and incentives that drive recycling rates toward the 16% and beyond.

For example, the Plan cites the need for cleaner carpet feedstock in order increase recycling output but does not provide any way this could be done. AB 341 could possibly be a tool for this purpose as that statute requires source segregation if recycling rates are reduced if the material is mixed with other waste and recycling rates will not be comparable if sent to MRF’s.

Because CARE represents the carpet industry and all California carpet retailers/installers should be covered under the AB 341 4 cubic yard/week requirement to “arrange for recycling services,” there appears to be a major opportunity here to help solve the contracting collections problem, increase recycling output and help alleviate concerns by companies like XT-Green who are interested in expanding the carpet processing infrastructure in California.

### **Challenges with PET recycling**

One of the proactive programs that CARE does include in the Plan is focused initiatives on non-nylon materials. Based on conversations with CARE, technology improvements to increase PET recycling will be the primary driver to reach the 16% goal. There are problems with this assumption especially as the amount of PET in the waste stream will be increased from 30% to 50% by 2016 and getting the PET solutions in place may take longer than expected.

As noted earlier, at the recent CARE Entrepreneur Conference held on Oct 23, 2013 the potential for carpet made with polyester fiber (PET) to destroy the entire U.S. carpet collection/recycling industry in the next two years was a primary topic of discussion. Conclusions included input from Frank Endrenyi, the CARE PET Program Manager, that a comprehensive solution massive enough to alter today’s threat to the recycling infrastructure (beyond PET in carpet cushion) is probably 2 years away. There are many potential technologies and markets but they take time to investigate, develop and market.

These delays are due to the technical difficulty of recycling PET that has been used for carpet: PET polymer is very brittle and therefore cannot be in the same large plastic markets that nylon enjoys. PCC PET fiber pellets are too brittle to be turned into the same type of parts.

This Plan includes efforts to drive the PET technology efforts forward but there is no proof that they will be available in time to meet the 16% 2016 goal.

#### **Suggested Changes in the CARE Plan to ensure 16% goal:**

**Due to uncertainty associated with PET, CARE should include contingencies in the Plan to increase the collection and recycling rates.**

- **Provide incentives to stop the export of whole nylon PCC nylon (see collector initiatives discussed later)**
- **Support the AB 341 source separation requirements in order to collect carpet prior to reaching MRF’s and therefore decrease the disposal of carpet to dirty to recycle.**
- **Increase the incentives for Type 2 to keep filler out of landfills (see processing incentives discussed later)**
- **Reduce processing waste by factoring in recycling rates into the incentives and growth bonus. Companies should be rewarded who reduce their processing waste to landfills e.g. The Carpet Recyclers had a 70% recycling rate, XT-Green will have a zero waste to landfill goal, this plan should not settle for 30-40% processing efficiencies.**
- **The goal of creating California jobs should be included in this Plan**

Additional problems and solutions regarding PET plus increasing collections and recycling rates while creating California jobs are discussed later in these comments.

**Page 22 Contracting California Collections/Processing Infrastructure.**

The new revised CARE Plan states that “as of August 2013, there are 20 businesses, which employ 182 Californians to perform these functions.” In the May 2013 draft Plan CARE stated that there were “20 businesses that employ 150 Californians.” This is confusing as the CARE Plan submitted in May 2013 included *The Carpet Recyclers* which closed in March of 2013 with a resulting loss of 76 employees and the Carpet Collectors which closed in July 2013 with the loss of an estimated 50 employees and possibly more because they self-collected.

Therefore, it would follow that the 150 Californians reported in May Plan has been reduced by @ 125 employees for a remaining total of 50. However, the October Plan reports an increase to 182 although no additional processors or collectors have been added since May and actually, as shown below, there have been additional closures during 2013 or facilities that have stopped collecting carpet. Also, SOEX which has been included as a processor in both Plans has not accepted or processed carpet since 2011. This was verified by with a quick call by XT-Green.

There is a possibility that the 182 Californians employed number in the October Plan includes companies that have been recently included because of the non-nylon incentive. If this is the case, it should be made clear in the Plan and then only employees actually processing the non-nylon carpet fiber into products should be included in the employment number.

Collections and processing resources are critical to the success of the AB 2398 program therefore CARE needs to make a commitment to ensure they are correct in the Plan. Note: If the incentives are changed to include Certified Care Collectors this will also help with the understanding of this resource.

The following reviews Attachment VIII in the current Plan based on phone calls made into the facilities. The bottom line is, rather than the 20 facilities reported in the text of the CARE Plan, only 17 are actually listed in Attachment VII and of these, only 14 are still open and collecting carpet and of these 14, 6 are part of the rural program that consists of a collection trailer and few if any actual Californians employed in carpet recycling which leaves only 8 facilities on Attachment VII that are actually generating California jobs.

Since the beginning of 2013, the carpet collection/processing infrastructure has lost 6 facilities (including 2 major processors) and gained 0. Expanding this infrastructure needs to be a focus of this Plan.

Per Attachment VIII of the new revised CARE Plan, as of October 2013, the following are the **“Current Collectors and Processors of Carpet from California.”** Rural Counties Highlighted in Green. Facilities that have closed or are no longer accepting carpet are highlighted in Gray.

Facility & Location	Currently Accepting Carpet?	Collection Only?	Collections & Processing	Comments
#1 Black Butte Recycling/Mt. Shasta	Yes	X		Rural/Small Volume Location (See comment below)
#2 Carpet Solutions Carson	Yes		X	Division of Ming Industries, ships processed material to parent company in China
#3 Davis Street Transfer San Leandro	<b>NO</b>	X		Was sending material to Carpet Collectors, no cost effective outlet now for processing
#4 Delleker Transfer Station	Yes	X		Rural/Small Volume Location (See comment below)
#5 Del Norte County Transfer Station	Yes	X		Rural/Small Volume Location (See comment below)
#6 and #7 GreenWaste Carpet Recycling San Jose	Yes	X		With closure of The Carpet Recyclers carpet collected is shipped to Georgia or overseas for processing.
#8 Hawthorne Street Eureka	Yes	X		Rural/Small Volume Location (See comment below)
#9 Los Angeles Fiber Vernon	Yes		X	Utilizes PET/PP for carpet cushion (see later comments regarding limited market for this material).
#10 Mission Recycling	<b>NO</b>	X		Stopped collecting with the closure of The Carpet Recyclers
#11 Napa Recycling	Yes	X		Collected carpet shipped overseas
#12 Oceanaire	<b>NO</b>			Brokered Processed Material. No longer dealing in Carpet.
#13 Rock Creek Landfill Milton	Yes	X		Rural/Small Volume Location (See comment below)
#14 SOEX Fresno	<b>NO</b>		X	Confirmed that SOEX has not recycled carpet since 2011
#15 Tehama County Red Bluff	Yes	X		Rural/Small Volume Location (See comment below)
#16 Waste Management of Orange County	Yes	X		WMA has no carpet processing facilities.
#17 Zanker Road Recycling San Jose	Yes	X		A GreenWaste Facility. With closure of The Carpet Recyclers carpet collected is shipped to Georgia or overseas for processing. Also have collection facility at Florin Road Sacramento

Per this chart, of the “17 Collection and Processing Facilities” listed by CARE in their Plan:

1. **Four** are: **CLOSED or NOT ACCEPTING USE CARPET**
2. Of the remaining 14, **6 of these are: Rural/Small Volume Collectors**. During the first year of the Rural Collection programs, 202,500 pounds of carpet was collected by these facilities. To reach 16% recycling rate, using the assumptions in the Plan, 116 million pounds of carpet will need to be collected. Even if one assumes the rural program will more than double by 2016 to .5 million pounds (0.43%) that leaves...
3. At this time, only the following resources are available to collect **115.5 million pounds** (32% of all carpet discarded) needed to meet the 16% recycling goal:

a) Northern California

- 1) Napa Recycling
- 2) GreenWaste (4 facilities each with limited geographic reach)
- 3) ReThink Green Oakland (not a CARE member)

Due to the closure of Carpet Collectors and *The Carpet Recyclers* (who bought GreenWaste’s collected carpet) all the rest of the whole nylon carpet collected in Northern California is now being exported overseas with the exception of Nylon 6 carpet shipped to Shaw in Georgia and a small amount of carpet shipped down to LA Fiber and Carpet Solutions. The non-nylon carpet (PET) is being land filled or stored.

Unless cost-effective carpet processing is available in Northern California, export will continue and the problems reaching the 16% recycling rate by 2016 will increase.

b) Southern California - Collectors Only:

- 4) Waste Management of Orange County
- 5) Others who are not CARE members – some selling to Southern California processors plus significant exporting of nylon carpet (losing more carpet needed to make the 16% rate)

c) Southern California – Collectors & Processors

- 6) Carpet Solutions
- 7) LA Fiber

d) Non-California Processors that apply for AB 2398 Funds

- 8) Shaw Evergreen Facility – Nylon 6 only
- 9) Tandus – Carpet Tiles Only
- 10) Interface – Carpet Tiles Only

Note: As many as 11 carpet processing companies have applied for AB 2398 in the past. This number is down to 5 companies: 3 (only 2 in California) process residential carpet (70% of the PCC generated) and 2 process carpet tile outside of California.

Finally, as 3 of the remaining 5 processors are from outside of California, how does the Plan incentivize California-based entrepreneurs and the creation of California jobs?

Figure 2 identifies the supposed growth of recycled output, again it needs to be made clearer in the Plan how this will actually be accomplished especially in light of the contracting carpet collections and recycling infrastructure.

**Page 23 CARE Reclamation Partners Map**

The Map is not correct regarding the non-Rural Locations. Per the chart above, the map has the following mistakes.

County	Locations Shown on Map	Locations per above
Sacramento	2	1 - GreenWaste has a Sacramento location which is not listed on Attachment VIII
San Francisco	3	3
Napa	0	1
Fresno	1	0
Los Angeles	7	3
San Diego	2	1 (An Arizona company has a San Diego location which wasn't included on Appendix V111)

**Suggested Changes in the CARE Plan to address the problem that the AB 2398 Carpet Collection Infrastructure is Inadequate to Support Goals:**

- **Revise Attachment VII by removal of closed facilities or facilities that are no longer accepting carpet. Give the accurate number of facilities in the text.**
- **Make it clear in Attachment VII that 6 out of the remaining 14 of the collectors listed are from rural/small volume locations (43%) and have the capability of collecting less 0.5% of the carpet needed to reach goals**
- **Identify the shortfall in capacity for both collections and processing in reaching 16% goals (including taking into consideration the impact from whole carpet export)**
- **Address the loss of California jobs and how this trend will be reversed (including considering higher incentives for California processors vs. out-of-state processors operated by the billion-dollar carpet mills).**
- **Provide incentives for Collectors (details discussed later)**

**Page 24 CARE Reclamation Activities.**

CARS (Carpet As a Rock Substitute) should be “removed from production yields” as it is no longer an approved process and the material considered CARS has now been land filled.

The chart appears to show that all the activities of the CARE Carpet Reclamation Partners results in recycled output. These activities should include land filling of non-recyclable carpet and non-recycled production waste plus export of whole nylon carpet.

**Suggested Changes in the CARE Plan regarding Reclamation Activities list:**

- **Remove CARS**
- **Add export of whole nylon carpet**

**Page 24 - 25 Best Management Practices**

Section 7 provides a description of the “Best Management Practices” which focuses on the CARE Certified Collectors Program. This section should make it clear that all collectors in California are not part of this program and are therefore not covered under these “Best Management Practices.”

In the description of the Code of Conduct for Certified CARE Collectors it states “*We are essential to the continued success of CARE and the carpet recycling industry*” if this is the case, why aren’t collectors included in the AB 2398 incentive program? See later suggestions.

**Page 25 Environmental Impact of Exporting Carpet**

Included in the Code of Contact regarding Certified CARE Collectors is “*We are committed to protecting the environment in all aspects of our business.*” However, because there are no incentives for independent collectors to provide collected material to CARE carpet recyclers in the AB 2398 program, a growing amount of collected nylon carpet is being exported overseas.

Besides the loss of California jobs and recycled output discussed in the collections section, the relevant issue here is the impact of the export of whole carpet on the environment and export being contrary to the goals of AB 341 regarding California being responsible for its own waste and not being a source of environmental pollution in other states or countries.

With exported carpet, only the nylon component is valuable which makes up @ 40% of the carpet. The low-tech way to collect the nylon is to soak the carpet in water and pull out the nylon fibers by hand. The water becomes saturated with the carpet filler (calcium carbonate) and the carpet dirt which is high in nitrates. This is discharged untreated into waterway in concentrations that cause fish kills and algae blooms robbing the waterway of oxygen. The large amount of non-valuable solid component of the carpet is disposed in unlicensed landfills.

**Suggested Changes in the CARE Plan regarding Environmental Protection:**

- **The CARE Plan should include incentives to stop the export of the nylon carpet required for a viable California carpet recycling industry and to stop environmental damage from overseas recycling. (See details later)**

Under “Best Management Practices” only the carpet collectors are discussed in the context of the Certified CARE collectors program but there is nothing about the carpet processors who have a much higher potential to cause problems from their operations. This was recently demonstrated by the accumulation of 32 million pounds of illegally disposed waste behind the Carpet Collectors facility in Sacramento in violation with State and local fire, solid waste and waste quality regulations. This material has now been disposed in a landfill.

CARE is not expected to be a regulatory agency responsible for compliance by their “reclamation partners” but CARE needs to make a commitment that one of the responsibilities of the new CARE California Program Manager is to have a working knowledge of the various California rules and regulations and agencies in order to be a resource to the entrepreneur community and ensure that problems like the Carpet Collectors does not happen again. This understanding should include air quality permitting, solid waste management facility permits, storage requirements for stormwater management and fire protection and CalOSHA requirements regarding respiratory and hearing protection.

This effort needs to include the assurance that CARE will not approve of a technology such as CARS again without being assured that the proper California permitting and approvals have been secured prior to starting operations and being paid AB 2398 funding. This is especially important with the increasing pressure to find a solution for PET as soon a possible. One can easily exchange one environmental problem for another if one rushes forward without review.

Finally, the California Solid Waste regulations (Title 14) require all solid waste management facilities to secure a Solid Waste Management Facility Permit unless exempted as a recycling operation that accept only source segregated material and generates less than 10% residual waste. At this time, carpet recycling produces significantly more than the 10% therefore, a permit is required to be issued by CalRecycle or by the Local Enforcement Authority (LEA).

Because carpet recycling facilities qualify under the small facility rules, the requirements for the permits are minimal and the operating plan required is a good tool for ensuring a well-run facility. In CARE’s role of being advisors to entrepreneurs interested in carpet recycling in California and as the stewardship organization responsible for implementing AB 2398 on behalf of CalRecycle, CARE should at a minimum be able to advice their reclamation partners regarding this CalRecycle permitting program.

**Suggested Changes in the CARE Plan regarding Best Management Practices:**

- **Expand to include Processors and make a commitment that the California Program Manager should have a working knowledge of regulations.**

**Page 25 Carpet recycling is not accessible to a wide number of Californians**

The problem regarding accessibility to carpet recycling is due to the contracting infrastructure discussed earlier but also to the issues discussed in this section.

The new revised Plan CARE claims that 98% of all Californians have access to carpet recycling. This is based on the assumption that urban areas are served by the private independent collection/processing companies and the needs of the rest of California are met through the Rural County Collection Program.

Per the CARE Plan, the program in urban areas is primarily empty collection trailers dropped by recyclers at “large retailers or installers” and swapped out when full, or “independent collectors who collect/sort carpet and deliver to recycling facilities.”

As noted earlier, the Rural Program can only collect < 1% of the 116 million pounds of PCC needed to meet the CARE Plan 16% recycling goals for 2016. Therefore, the independent collection system in California (which is presently contracting in size) is needed collect the remaining 115 million pounds of the needed PCC. There are numerous reasons why the existing infrastructure will not be able to meet these needs:

- 1) The AB 2398 incentive program presently does not incentivize collections with the exception of the Rural County Program. (Incentives paid to the processors were planned to be a “push pull” to get funding for collections but has proved to be inadequate to expand the collections network in urban areas.)

Note: For the Rural County Pilot Program, CARE paid an average cost of 10.6 cents per pound to provide trailers, transportation, logistics and marketing for this pilot program which will be expanded from 10 to 16 rural counties to 22 by July 2015 with an expected return of less than 1% of the carpet needed to reach 2016 recycling goals.

- 2) Because there are no incentives for collectors, used carpet generated by “do it yourself” projects that are picked up in bulky item programs by local city, governments or franchise holders tend to be disposed. This is because it is too costly to segregate the recyclable nylon carpet from the non-recyclable PET carpet as this requires an \$18,000 analyzer to determine the fiber type. This problem could be solved if carpet shipped into California had the fiber type marked on the backing.
- 3) Only large stores with adequate space get trailers (if they can't fill a trailer in two weeks it's not cost effective for the recycler to provide trailer service). The City of Los Angeles has over 300 carpet stores and but it's estimated that < 10% of these stores are provided trailer service because they are too small or have inadequate space. Fortunately, both LA Fiber and Carpet Solutions (the only two carpet processors left in California) are located adjacent to the City of Los Angeles and accept drop offs.

With this it's estimated that 50% of discarded carpet in the City of LA is collected, an impressive number except that the City of LA generates 12% of all the PCC in California. Therefore the uncollected carpet is estimated to total 20.8 million pounds in 2013. This is due to the size of the region and traffic patterns making it is often more convenient and less costly for installers to dispose of the waste carpet.

Hopefully, part of this problem will be solved by the new commercial franchise program. The involvement of CARE in the development of this program could have major returns in capturing a significant portion of carpet presently going to landfill or Waste to Energy.

- 4) With the closure of Carpet Collectors in Sacramento, there are no longer any carpet recyclers/processors in Northern California. *The Carpet Recyclers* was also buying significant amounts of Northern California carpet. Although there are some drop-off locations, these facility closures reduce trailer service significantly and the vast majority of carpet still collected in Northern California is now exported out of state and overseas.
- 5) Landfill disposal costs are often lower than the cost needed by collectors/recyclers to compete with disposal. Transfer station and MFR drop offs (including those adjacent to landfills) have higher tipping rates for carpet than the landfills.
- 6) The number of collectors will continue to contract due to the increasing % of non-recyclable PET carpet increasing disposal costs and reducing the amount of the valuable nylon carpet in their collection trailers. (Additional discussion is provided later as a separate, very important problem.)
- 7) Carpet must be relatively clean to recycle, it must be source separated prior to getting to MRF's. AB 341 requires all California Carpet Retail businesses to "arrange for recycling services" as they generate more than 4 cubic yards per week of carpet waste. Disposing carpet through mixed waste processing i.e. MRF's does not yield diversion comparable to source separation and therefore should not be allowed under AB 341.

Carpet Recycling provides significant greenhouse gas benefits. The new revised California Carpet Stewardship Plan should comply with California Law including AB 341.

**Suggested Changes in the CARE Plan regarding accessibility to carpet recycling:**

- **The CARE Plan should acknowledge that a significant component of non-rural California does not have access to carpet recycling and identify shortfalls in the collection and recycling infrastructure.**
- **Implement the collections incentives discussed later**
- **The CARE California Program should become involved in the development and implementation of the City of LA Commercial Franchise Program which has major potential for capturing the 20+ million pounds of City of LA carpet estimated to presently be going to landfill. Also her involvement with the AB 341 Commercial Recycling can also increase collections.**

**Page 28      Market Development**

The effort described in the CARE Plan focuses on the promotion of secondary products where a commitment has already been made to utilize recycled output from carpet recycling. Although this is extremely important, the more difficult step is the education, marketing and matching of recyclers and manufacturers in the first place.

The challenge of this is exemplified by the fact that (with the exception of Reliance Carpet Cushion manufactured in Vernon California) all of the recycled output from the existing and recently closed carpet recyclers in California is not utilized in California but rather is shipped as fiber to the eastern U.S. or overseas. Because there are no local markets, carpet recyclers in California immediately lose significant value due to shipping costs. For example, a significant reason for the close of *The Carpet Recyclers* (TCR) in La Mirada was the immediate 8 cent/pound loss due to the cost of shipping their recycled output out of California.

Part of the challenges to convince a manufacturer to use recycled content is overcoming the short-term costs associated with product testing and changing their manufacturing process. For example, a major vinyl flooring manufacturer in California was interested in utilizing the Type 2 material (calcium carbonate) generated at the Carpet Recyclers' facility which was located less than 10 miles away. The first challenge was the fact that virgin calcium carbonate is @ 1 cent per pound. TCR proposed to share the present 3 cents/pound Type 2 incentive but it was inadequate to overcome objections, especially associated with start up costs.

TCR was able to find other outlets due to synergies with their parent company operations but since the closure of TCR, as reported in Q2 2013 results, 0% Type 2 material was recycled in California. Of course, Type 1 is a higher priority material but unless markets are developed for Type 2 material, as it makes up @ 40% of carpet, it will be difficult to meet the 16% recycling goals by 2016 which assumes recycled output of 8 million pounds/year of Type 2 material.

Note: See later comments regarding the significantly varying % of Type 2 material in Type 1 recycled output fiber.

The long-term success of carpet recycling in California will be challenging unless local markets are developed for the harvested material. XT-Green is hopeful to be part of this solution. The initial (multiple location) stage of the XT-Green facility design consists of "shred and clean" processing facilities which will process baled whole nylon carpet through a series of shredders, hammer mills, step cleaners and (a first for the United States) proprietary final cleaner to further reduce the ash content in the harvested fiber.

The recycled output from these "first stage" cleaning operations will be low-value baled fiber (due to the polypropylene contamination) with presently no markets in California. However, XT-Green is also planning on bringing the next stage of carpet processing to California.

Recycled output presently being shipped out of California is either:

1. Shipped overseas for additional processing or used in low-spec products, or
2. Nylon 6 shipped to massive depolymerization facilities operated by Shaw in Georgia or Aquafil in Eastern Europe to create nylon fiber, or
3. Nylon 6 and nylon 6,6 fiber shipped to facilities in the Midwest and Eastern U.S. where the ash is further reduced and the polypropylene is separated from the nylon. The nylon can then be compounded into engineered resins primarily used in the auto industry.

Besides the loss of value to California carpet recycling and its manufacturing community because of this long-haul shipping of recycled output outside of the state, there is also a reduction in the significant carpet recycling greenhouse gas benefits and the additional jobs that can be created by doing additional processing in California.

XT-Green is exploring building the ash reduction/separation facility described in #3 in California. It would be sized to not only accept material generated from our own “shred and clean” facilities but also other carpet recycling companies in the western U.S. and possibly the processing/recycling of other polymer materials.

Due to the high cost of construction and startup, the probability that the economics are favorable to construct this facility will increase if the AB 2398 incentive program supports the operation of this key resource for the success of carpet recycling in California. This could either be through an additional incentive for output from this proposed facility or at least not being penalized for producing low ash Type 1 material as is the present situation. See later comments.

CARE has taken the first step in supporting the development of market outlets by incentivizing companies who convert qualifying Type 1 non-nylon PCE into next stage or end use products.

**Suggested Changes in the CARE Plan regarding market development:**

- **Support additional processing of Type 1 material processing in California to increase the viability of the state’s carpet recycling companies, retain recovered resources in the State, further reduce the greenhouse gases and create more California jobs.**
- **Add a short-term Type 2 incentive to manufactures to overcome objections and subsidize testing and startup costs, e.g. 4 cents per pound to the manufacture for two years**
- **Additional details provided later for both of these items are provided later.**

**Page 29 Growth & Development Initiatives: PET**

Note: In the following comments, polyester/PET represents all non-nylon carpet presently with limited recycling options.

The new revised CARE Carpet Stewardship Plan includes the following efforts toward resolving the non-nylon carpet problems:

- Incentivizing the market growth of secondary products made from post-consumer non-carpet with a \$.12 per pound of output payment.
- Commitment of research grants to California University study improvements in carpet recycling.
- Hiring of a part-time national CARE PET Program Manager (Frank Endrenyi) to facilitate recycling efforts of non-nylon carpet. This position is partially paid for by California AB 2398 funds.

XT-Green applauds these efforts but is concerned that they will not result in solutions fast enough to resolve this extremely important issue.

As noted earlier, at the CARE Entrepreneur Conference held on Oct 23, 2013 the potential for carpet made with polyester fiber (PET) to destroy the carpet collection/recycling industry in the next two years was a primary topic of discussion. Frank Endrenyi, the CARE PET Program Manager, stated in the meeting and has confirmed since then that a comprehensive solution massive enough to alter today's PET threat to the recycling infrastructure (beyond PET in carpet cushion) is probably 2 years away. As it is almost 2014, this delay includes the 2016 timeline for the recycling goals laid out the CARE Plan.

There are many potential technologies and markets (including the 30 different possibilities that are noted by CARE) but their own expert Frank Endrenyi acknowledges that they will take time to investigate, develop and market these technologies. This is due to the technical difficulty of recycling PET that has been used for carpet: PET polymer is very brittle and therefore cannot be in the same large plastic markets that nylon enjoys such as the auto industry. Also pellets made from PCC PET fiber are too brittle to be turned into the same parts. Finally the cost of virgin PET is much cheaper than nylon and therefore no economic incentive for recycling. This includes LEED credits for recycled content. This is usually of interest for commercial applications, commercial carpet and carpet tiles do not use PET.

The problem of PCC PET recycling can be a bit confusing as there is such a robust industry recycling PET bottles. However, it's the compounds and colors that are added to make PET carpet that destroys the ability of the PCC PET carpet to be recycled.

Many of the PET carpet manufactures actually promote the "sustainability" of their carpet because some is made from recycled PET bottles. However, this is "green washing" because the majority of the recycled-content PET carpet is now headed for land disposal nationwide. This is especially disturbing because PET bottles recycled into new bottles or other clear products can be recycled over and over again. Additionally, one of the largest PET carpet manufacturers uses all virgin PET so there is no sustainability advantage.

### **Carpet Cushion is very important but can't solve the PCC PET problem**

The only present use of PCC PET carpet is for a very limited market for recycled PET fiber carpet cushion. Carpet cushion made from recycled PET fiber does not have the properties that are desirable for the residential market. Therefore its use is limited in that market in favor of recycled-content rebond carpet pad. PCC PET is primarily used for commercial broadloom carpet which itself is a contracting market due to the rapidly increasing popularity of carpet tiles.

Due to shipment costs, post-consumer PET carpet must be generated relatively close to the recycled PET carpet cushion manufacturer. There are only two in the U.S. – one in Georgia (who imports no carpet from California) and Reliance carpet cushion in Vernon CA.

The \$.12 per pound incentive included in the new revised CARE Plan is extremely important to ensure the ongoing resource of Reliance to recycle a portion of non-nylon carpet in California. However, expansion of this market to utilize more of the PET carpet cushion is limited as commercial carpet buyers are trending toward carpet tiles, much of which is recyclable.

## PET issues impact the ability for CARE to reach 2016 goals

Q2 2013 was the first quarter that the \$.12 per pound incentive was paid by CARE so a clearer picture of the present status of carpet recycling in California and the remaining PET problem can be calculated using the data from CARE quarterly report. A summary and conclusion table is provided at the end of the following calculations.

Note: "Total Recycled Output" results include the final quarter of operation of the Carpet Collectors. Also "Recovered" (collected) numbers do not include collectors that are not providing collected carpet to processors that are filing for AB 2398 funds but rather are exporting whole nylon carpet. This will be discussed in greater detail later:

### Q2 2013 Results:

Total Carpet Discarded	93.5 Million Pounds
Total "Recovered" (collected)	21.5 Million Pounds (23%) but of this...
Total Recycled Output	10.8 Million Pounds (11.5%)
Recovered Material Returned to Landfill	<u>6.5 Million Pounds</u>
	17.3 Million Pounds
Unaccounted Material "Recovered" (collected) (21.5 M less 17.3 M)	4.2 Million Pounds (additional material exported as whole nylon carpet)
Of the "Recycled Output" of 21.5 Million Pounds:	
Nylon fiber	20.5 Million Pounds (95.3%)
Non-Nylon Carpet	1.5 Million Pounds (7%)

Total Amount of Carpet Reported by CARE presently going to Landfill:

Recovered Material Returned to Landfill	6.5 Million Pounds
Carpet Discarded less Carpet Recovered Reported to CARE	<u>72 Million Pounds</u>
Total	78.5 Million Pounds

However, based on conversations with Collectors,  
an estimated 6 million of this material is exported as  
whole nylon carpet not reported to CARE

(6 Million Pounds)

Actually quantity going to Landfill 72.5 Million Pounds

As there is much concern, including CARE's own PET expert, that there will be no additional PET recycled outlets besides a non-expanding carpet cushion market, let's compare existing PET carpet recycling with 30% of the material in the waste stream (based on national averages) with what will happen when the % of PET reaches 50% by 2016.

The following assumes that no additional PET recycling technologies will come on-line in the next two years as noted by CARE's PET Program Manager. As commercial carpet is almost 100% nylon, this comparison uses Nylon vs. Non-nylon Residential Carpet (mostly PET carpet) which is 70% of the waste stream or 65.5 Million Pounds.

A summary and conclusions are provided at the end of these calculations.

**Residential Nylon Carpet (Q2 2013)**

Total Discarded	45.9 Million Pounds
Recovered Output	20.5 Million Pounds
Exported Whole Carpet	
Calculated	4.2 Million Pounds
Estimated	<u>6 Million Pounds</u>
Total Recycled Output*	30.7 Million Pounds (66.9%) (includes export)
Nylon Carpet going to CA Landfill	15.2 Million Pounds (33.1%)

**Residential Non-Nylon Carpet - mostly PET (Q2 2013)**

Total Discarded	19.6 Million Pounds
Recovered Output	1.5 Million Pounds
Exported Whole Carpet	0
Total Recycled Output	1.5 Million Pounds (7.6%)
Non Nylon Carpet going to landfills	18.1 Million Pounds (92.4%)

**Nylon + Non-Nylon Carpet**

Total Discarded	65.5 Million Pounds
Total Recycled Output*	32.2 Million Pounds (49%) (includes export)
Carpet going to CA Landfill	33.3 Million Pounds (51%)

\* See later discussion regarding need to stop exports. Numbers provided to illustrate the value of the nylon carpet that is lost to CA processors.

Let's see what happens by **2016** when the **PET goes to 50%** using these assumptions:

- Due to the limited uses of PET fiber carpet cushion, the new incentive will support on-going recycling of this material but the market for PET carpet cushion will not expand i.e. no additional volume of PET fiber carpet cushion will be sold in 2016 over 2013
- Also, as noted by CARE's PET expert, no significant new use of used PET carpet is expected for at least 2 years and that % of PET will reach 50% by 2016.
- The amount of carpet discarded per CARE will stay relatively constant

### Residential Nylon Carpet (Q 2 2016 assuming 50% nylon vs. non-nylon)

Total Discarded	32.7 Million Pounds
Total Recycled Output (66.9%)	21.9 Million Pounds (includes export)
Nylon Carpet going to CA Landfill (33.1%)	10.8 Million Pounds

### Non-Nylon Carpet - mostly PET (Q2 2016)

Total Discarded	32.7 Million Pounds
Total Recycled Output	1.5 Million Pounds
Non Nylon Carpet going to landfills	31.2 Million Pounds

### Nylon + Non-Nylon Carpet (Q2 2016)

Total Discarded	65.5 Million Pounds
Total Recycled Output*	23.4 Million Pounds (35.7%) includes export
Carpet going to CA Landfill	42 Million Pounds (64%)

\* See later discussion regarding need to stop exports. Numbers provided to illustrate the value of the nylon carpet.

**Summary/Conclusion: If no additional incentives/penalties aimed at resolving rapidly increasing PET issues are added to CARE Carpet Stewardship Plan, by 2016:**

	Q2 2013 (actual)	%	Q2 2016 (estimated)	%	Changes
<b>Total Recycled Output (includes export)</b>	32.2 M Pounds	49%	23.4 M Pounds	35.7%	<b>Decrease of 8.8%</b>
<b>Carpet Going to CA Landfill</b>	33.3 M Pounds	51%	42 M Pounds	64%	<b>Increase of 13%</b>

Based on these estimates and assumptions, additional incentives are needed in the CARE Plan to address non-nylon carpet in order to reach 16% goals by 2016. These are discussed in proposed changes provided later in these comments.

### PET Carpet threatens entire U.S. Carpet Recycling Infrastructure

As noted above, the carpet collection and recycling infrastructure is rapidly contracting in California but also nationwide due to the increasing amount of non-recyclable PET carpet in the waste stream. The impact is not only due to the rising PET disposal cost for each collection trailer, it's also the revenue lost from the lowering % of nylon as shown by this example.

For a collection trailer holding approximately 30,000 pounds of collected carpet, an assumed PET disposal cost of \$50/ton (and rising) and a nylon value of 8 cents/pound:

PET 30% (2013):	Trailer value (70% nylon – 30% PET disposal)	\$1350
PET 50% (2016):	Trailer value (50% nylon – 50% PET disposal)	\$825

This revenue (plus whatever tipping fees can be charged) from these trailers must cover: the cost of the trailer (weekly rentals), transportation to drop off and swap the trailers, extensive labor to sort the PET from the nylon carpet (using an \$18,000 analyzer), transportation to processing facilities or (increasingly) baled and transport for export. The California collectors presently receive no AB 2398 funding.

With this rapidly-reducing profitability (if collectors don't go out of business all together), they can only serve the largest carpet retailers/installers and only in a small geographic service area.

The nation-wide PET problem was the primary topic of concern at the October 2013 CARE Entrepreneur Meeting. The following is a summary of the PET challenges that threaten to destroy the entire carpet collection/recycling in the U.S. including California. These concerns were recently submitted to Carpet Research Institute (CRI) and the major Polyester (PET) Carpet Manufacturers by a nationwide coalition of carpet collectors and entrepreneurs of CARE:

- ❖ During 2012, it is estimated by CARE that over 100 million pounds, or roughly 30% of the 330 million pounds collected was PET/PTT which all went to waste to energy (WTE) or was disposed in landfills. (With the exception of a small portion of the PET that was processed into carpet cushion discussed above.)
- ❖ There are currently no significant market-based solutions to recycle PET/PTT waste carpet even with CARE's significant efforts over the past 10 years to drive markets for recycled waste carpet. (The use in carpet cushion was going on prior to the development of CARE.)
- ❖ Generators of the used carpet cannot tell fiber type so both the non-recyclable PET/PTT and the recyclable nylon are combined in the same collection trailers.
- ❖ Collectors are generating less revenue per load due to the increasing % of PET/PTT and the loss of the % of valuable nylon carpet (see chart above)
- ❖ It is estimated that the collectors are bearing the cost of over \$5 million annually for tipping fees associated with disposal of the carpet mills non-recyclable carpet (while the carpet mills are making record profits selling lower cost PET)
- ❖ As CARE admits that "due to the numerous technical challenges there will not be any significant solutions to recycle PET/PTT for at least two years" the collectors are requesting that the mills pay for their PET/PTT disposal for the next two years.
- ❖ Letters' conclusion: *"If the collection network does not find a way to deal with this current situation over the next few months we face more closing of companies collecting waste carpet and falling recycling rates nationwide. **A significant example is the current situation in California with recyclers/processors closing and recycling rates trending downward.**"*

Of course, no one wants to encourage disposal but until there are answers to the PET problem, nylon carpet recycling will also spiral down with the contraction of the independent carpet collection infrastructure. The carpet collectors anticipate a long battle to secure any relief from the PET manufactures on a national level. California can lead the way through AB 2398 to incentivize solutions. Suggested solutions provided below.

### **Page 30      Differential Fees based on Fiber Type**

The CARE Plan makes the following comment regarding PET: *“Additional approaches are under constant evaluation by CARE including differential fees based on fiber type...”*

The suggested changes below regarding the PET program include this suggestion. The approach seems to be especially valid as the present 5 cent per square yard (1 cent per pound) fee is a recycling fee. Until the majority of PET carpet is actually being recycled, PET carpet purchased should be charged a non-recyclable surcharge to cover the direct disposal expense of the collectors for PET carpet (@ 5 cents per pound) and also fund additional research and incentives to develop PET recycling alternatives.

The new revised CARE Plan includes additional incentives to help solve problems associated with the PET issues but per the above discussion, because of the anticipated 2 year lag before additional PET alternatives are in place, additional incentives are needed to ensure the viability of the collection infrastructure in California.

#### **Suggested Changes in the CARE Plan to address the short-term PET carpet crisis for at least the next two years that won't be resolved fully by the new incentives provided in the new revised plan.**

- **Identify the amount of PET carpet that is expected to be recycled using the existing, limited carpet cushion market. Identify the amount of PET that will continue to be a problem until new technologies are available (expected to take at least two years).**
- **Support the national CARE carpet collectors' proposal for the carpet mills to pay 5 cents/pound for the disposal of their own used PET carpet for the next two years while PET recycling technologies are developed. Until the carpet mills accept the responsibility for their own non-recyclable carpet...**
- **For non-nylon carpet sold in California, add onto the carpet assessment fee an additional “non-recyclable fee” of 7 cents per pound (\$0.35 per square yard) to go into a PET fund to pay for...**
- **The 5 cent/pound disposal cost to the collector for the PET and 1 cent per pound for additional research and incentives to find a solution for the recycling of PET carpet and the .5 cent for administrative costs.**

## Growth and Development Incentives: Non PET Issues

Besides the PET issues, the new revised CARE Plan includes a bonus program to help solve issues associated with the closure of *The Carpet Recyclers* and the Carpet Collectors regarding competition for PCC. We applaud and support the bonus program.

However, the CARE Plan proposes to continue a 6 cent per pound payment for Type 1 material presently defined as fiber with < 25% ash i.e. the filler (mostly calcium carbonate) and dirt that remains in recovered fiber.

In general, the cleaner the fiber (lower the ash content), the higher the percentage of recovered fiber will be utilized as recycled content (with less waste generated during the next step of production.) CARE now requires that an ash analysis be included with the request for funds. This is being done by the processor. The temperature of the test is very important relative to the validity of the analyses. CARE has issued an analytical procedure for ash testing.

However, sample and handling of samples are also extremely important relative to the final results. If the fiber is > 25%, the payment for the fiber is reduced to 3 cents per pound. Because of this significant difference, CARE should establish a sampling frequency and procedure (e.g. composite samples from numerous bales) that is required for the self testing and reporting. But also, CARE should include independent ash testing as part of its auditing procedures.

The planned XT-Green facilities will generate extremely clean fiber with an estimated < 5% ash processed in the “shred and clean” facilities discussed above. This material will then be additionally processed to remove additional ash and separate the nylon from the polypropylene and turn the fiber into pellets. This additional processing will allow higher uses of this material, less waste, more California jobs plus provide a greenhouse gas saving by not shipping bales of fiber across the U.S. or overseas.

However, based on the present Type 1 incentive program, XT-Green will actually be penalized for its high quality as shown in this example:

If Company A is utilizing less equipment and producing a Type 1 fiber with 20% ash, for every 100 pounds of Type 1 fiber recovered, it will have 20 pounds of ash.

If Company B is utilizing more equipment and producing a Type 1 fiber with 5% ash, for every 100 pounds of Type 1 fiber recovered, it will have 5 pounds of ash.

Let's see what happens when these companies process 2000 pounds of nylon carpet with a conservative composition of: 50% fiber (1000 pounds), 40% filler (800 pounds) and 10% other.

Company A (20% ash):

Type 1: 1000 pounds fiber + 250 pounds of filler = 1250 lbs x \$.06 = \$75.00

Company B (5% ash):

Type 1: 1000 pounds fiber + 50 pounds of filler = 1050 lbs x \$.06 = \$63.00

Note: Company B would have a possibility for higher Type 2 incentives but it would be paid out at 3 cents a pound and as there is presently no market for this material as discussed above, only Type 1 incentives are compared here.

As shown, with the present CARE Type 1 incentive program, Company A (with a significantly less sophisticated, less capital/operating expense intensive facility that produces poor quality recycled output) will actually be rewarded with additional Type 1 incentives because of the significant weight of Type 2 material in their fiber.

This will especially impact XT-Green when the additional separation, cleaning, pelletizing facility is added that separates the nylon from the polypropylene and reduces the ash to < 1%.

XT-Green (1% ash):

Type 1: 1000 pounds fiber + 10 pounds of filler = 1010 lbs x \$.06 = \$60.60

Based on above:

**Suggested Changes in CARE Type 1 Incentives to promote best and highest use of recycled Type 1 output and increase utilization of material in the U.S. and California:**

- **Maintain requirement that all Quarterly Requests for Funds be accompanied by an ash analysis that meets the CARE issued ash analyses procedures.**
- **CARE should develop a statistical based sampling plan to ensure the Type 1 material analyzed represents the recycled content sold.**
- **Recycled output > 25% ash will be considered Type 2 material and continued to be paid out at the existing 3 cents per pound**
- **Recycled output < 25% ash and > 8% ash will be considered Type 1 material and continued to be paid out at the existing 6 cents per pound**
- **Recycled output < 8% ash and > 3% ash will be considered high-quality Type 1 material and paid out at 8 cents per pound**
- **Recycled output additional processed to <3% ash and pelletized will be paid out at an additional 2 cents per pound.**

**Page 32 California-based CARE Representative**

XT-Green whole heartedly supports the addition of a California based AB 2398 CARE resource. We are hopeful that her efforts will include:

- A proactive effort to support the expansion of the presently contracting collection infrastructure in urban areas.
- Working with CalRecycle and the California Air Resources Board (CARB) to ensure the development of the AB 341 Commercial Recycling, 75% Plan and the CARB recycling emission factors are synergistic with the AB 2398 program to promote carpet recycling.

- An education program that includes a strong focus on consumers and ensures that “sustainability” includes the life cycle of the material.
- Securing a cursory knowledge of the California regulatory structure and requirements to ensure a level playing field between the carpet processing companies i.e. preventing a repeat of the CARS type situation which gave one company an unfair and unfounded advantage over other carpet recyclers.

### **Page 33      Collectors**

In this section the California Carpet Stewardship Plan CARE:

- a) Recognizes the important role of collectors
- b) Notes that there are collectors who are not CARE members
- c) Comments that they are considering a possibility of a collection incentive as...  
“a way to collect more accurate recovery data and stimulate growth in recovery and output.”

As discussed earlier, there is a much more urgent need for CARE to focus on the collectors than is expressed here because:

- 1) The California urban collection infrastructure is rapidly contracting
- 2) The PET problem severely impacts collections and the solutions proposed by CARE will probably not be implemented in time to prevent further contraction unless other measures are implemented.
- 3) The incentivized rural program will generated less than 1% of the 116 million pounds of collected carpet needed to meet the 2016 goals. There needs to be a viable urban collections infrastructure to make up this difference, especially as...
- 4) Nowhere in this Plan is the issue of export of whole carpet addressed
- 5) Collectors need to be incentivized in order to stop carpet export both overseas (see discussion below) and out of state and create California jobs as...
- 6) It will be very difficult to attract new carpet recycling facilities in California (including XT-Green) unless there can be an expectation that there will be adequate recyclable carpet to recycle.

### **Growing export of whole nylon post-consumer carpet out of California**

At this time an estimated 10.2 million pounds/quarter of post-consumer nylon carpet is being exported out of California to overseas’ markets. This is based on the Q2 2013 calculations that show that 4.2 million pounds of whole nylon carpet shipped by processors that report into CARE plus the independent collectors (especially in Northern California) who do not report into CARE.

Much of this is Northern California material that formerly went to the now-shuttered Carpet Collectors facility in Sacramento or was shipped south to The Carpet Recyclers' facility in La Mirada. Annualized over 12 months, this represents 40.8 million pounds – more than enough to supply an entire California Carpet Recycling facility and create a minimum of 50 California jobs.

It is very inexpensive to export whole nylon carpet to Asia. Many of the containers are going back empty. A container holding 40,000 pounds of baled whole nylon costs \$400 to ship or 1 cent per pound (significantly less than the cost to transport used carpet in California). There has been a slow down of this material into China due to their “Green Fence” policy and the shutdown of carpet processing facilities in China due to the pollution problems discussed below. However, there are numerous other Asian countries that are eager for the nylon from carpet.

Besides the loss of California jobs, as noted above shipping California waste carpet overseas does not meet the goals of AB 341 of California being responsible for its own waste and not being a source of environmental pollution in other countries. With carpet, only the nylon component @ 40% of the carpet has value. The low-tech way to collect the nylon is to soak the carpet in water and pull out the nylon fibers by hand. The water becomes saturated with the carpet filler (calcium carbonate) and the carpet dirt which is high in nitrates.

This contaminated water is discharged untreated into waterways in concentrations that cause fish kills and algae blooms robbing the waterway of oxygen. The large volume of the non-valuable solid waste component of the carpet is disposed in unlicensed landfills.

And because only nylon carpet is exported, what's left behind in California? The non-recyclable PET carpet discussed above that is sent to landfills (if it's not recycled into carpet cushion). Another problem rarely discussed associated with export is the rising underground piracy of nylon carpet from processors' collection trailers. Before the carpet even reaches the trailers, nylon carpet is bought directly from installation crews with side deals with exporters equipped with \$18K analyzers to detect nylon vs. PET carpet. The nylon is sold to the exporters, the PET carpet is put into the collection trailers which increases the PET problems discussed above.

Finally, as noted above, of the 5 remaining processors applying for AB 2398 funds at this time, only two are in California, the other three are carpet manufacturers (two collect carpet tiles) and the other is Shaw Industries who only process California carpet made from residential nylon 6. The incentive payments are the same whether the carpet is recycled in or outside of California.

There are no carpet tile processing facilities in California, therefore the incentives paid to Interface and Tandus are of great value as it offsets transportation costs and ensure that there are carpet tile recycling options in California.

However, the shipment of residential nylon carpet to Georgia by Shaw: reduces the amount of valuable nylon carpet available to California carpet processors; does not create California jobs and; generates green house gases from the additional transportation to Georgia. It is difficult for the California companies to compete with Shaw as they receive the same AB 2398 incentives and they can operate their carpet recycling operations at a loss which is made up through the profits of their carpet sales including their expanding PET carpet sales market.

**Suggested Changes in CARE Plan to increase carpet supply to California processors, create California jobs, stop the contraction of the California carpet collection infrastructure and prevent pollution overseas from exported carpet:**

- **Use AB 2398 funds to incentivize CARE certified carpet collectors (including local governments) by paying 3 cents per pound for nylon carpet generated in California that is documented and delivered to a California carpet recycling facility participating in the AB 2398 program.**
- **As part of the incentive program, collectors would be required to become a CARE Certified Collector and participate in all CARE reporting requirements in order to develop a comprehensive understanding of carpet stewardship in California that is presently lacking because they have no incentive to report.**
- **CARE needs to discuss nylon carpet export in their Plan and the potential impact on recycling output goals of 16% by 2016. Note: Under no circumstances should export of whole nylon carpet be considered “diversion” or a component of “recycled output” as part of the AB 2398 program.**
- **Include in the responsibilities of the new CARE California-based Program Manager that the CARE Carpet Stewardship Plan meet the requirements of AB 341 including:**
  - **Educate the California carpet retailers/installers that generate greater than 4 cubic yards/week (almost all of them) that they are required by law to arrange for recycling services.**
  - **Work with the CalRecycle AB 341 staff to determine the “comparable vs. source separation” rules regarding carpet with the goal of keeping carpet as clean as possible by contracting with carpet collectors and not sending carpet to MRF’s.**
- **To eventually eliminate the need for \$18K carpet fiber analyzers to sort carpet, require that all carpet sold into California be labeled on the backing as to carpet face fiber type e.g. Nylon 6, Nylon 6,6, polyester (PET) etc.**
- **Ensure all of California actually does have access to carpet recycling by expanding the “rural county program” to include urban drop off locations operated by local governments that accept carpet from small stores, carpet removed by do-it-your-selfer’s and picked up in bulky item pickup program.**

**AB 2398 support for these urban drop-off locations would include the collection incentive listed above for nylon carpet and disposal subsidies discussed in the collections section but also... Drop off locations meeting specific requirements would be provided the \$18K ID meter to determine fiber**

**type to sort carpet for the first five years. (Note: The one-time cost per pound of carpet collected from this program will be much less than the + 10 cent per pound that is provided as a rural program subsidy.)**

- **Promote the increase the landfill cost of nylon carpet to make it higher than the tipping fees required for recycling, make sure it's also higher than transfer stations feeding into the landfill.**

### **Page 33      Increase California Representation on CARE SPC and SFOC**

XT-Green recognizes the hard work done by the SPC and SFOC committees that run the California AB 2398 Carpet Stewardship Program. However, at present only one member of these committees is from California.

CalRecycle has an oversight role in the implementation of AB 2398 but the other stakeholders in California have no input into this program outside of periodically commenting on this Plan. This includes the other California carpet recycling entrepreneurs who have no input into the incentive program developed by the SFOC where decisions made have the potential to destroy their companies as was the experience with the ill-fated CARS incentive program being a significant reason for the closing of *The Carpet Recyclers*.

Hopefully some of these problems should be resolved by having a full-time CARE representative in California. But the AB 2398 funds are generated by fees paid by the citizens of California. There should at least be an advisory committee made up of Californians to support the success of the program especially relative the consumer education programs.

#### **Suggested Changes in the CARE Plan regarding California stake holders participation in AB 2398 decision making:**

- **Increase the number of California representatives on the SPC and SFOC Committees**
- **Create an advisory board of Californians to provide ongoing input especially relative to the consumer education program**

### **Page 34 and Page 40      Financial Impact of the New Initiatives/ Budget through 2016**

Based on the data in Tables VI and VIII, assuming an ongoing assessment fee of 5 cents per square yard, these ongoing assessments and the existing surplus are required to pay for the incentives in the newly revised CARE Plan. This document identifies a number of additional incentives that are needed for the success of this program. Therefore the question arises:

#### **How to pay for the additional incentives and programs?**

First there are items on the tables that suggest payouts, but there is no evidence provided that these funds will be paid out. For example, Table VI includes \$1.959 million for Type 2 payouts through the end of 2014. In Q2 2013 there was \$0 paid for Type 2 material. There is presently

nothing in the Plan that would create markets to change this outcome. Therefore, the suggested market incentives could partially be paid out by these unused funds.

The payouts for “non-nylon” end user payouts increase from 14% to 21% by the end of 2014. This runs contrary to the CARE PET Program Manager assessment that there will be no significant new PET end users for at least 2 years. These funds may also become available.

The temporary **surplus** presently in the Plan is due to:

- The lack of success of the existing program which resulted in the closure of two carpet recycling facilities
- The contraction of the collection infrastructure and
- Not using the funds for programs required by statute such as increasing the recyclability of carpet and the education program.

With the addition of the new (but inadequate) incentive programs, this surplus will be depleted. AB 2398 required that the 5 cent per square yard be utilized through January of 2013. CARE can increase the assessment fee as needed to implement the Plan. They have chosen to keep the assessment at 5 cents per square yard.

This will need to be increased to resolve the problems identified in these comments. This can be done by increasing the assessment fee.

**AB 2398 assessment is far below other stewardship programs**

One of the goals of the stewardship assessment is to educate the public regarding carpet recycling by seeing the line item on the invoice which is supposed to motivate them to ask if their carpet will actually be recycled.

This is needed because, although all carpet manufactures are required to pay the \$0.05/square yard into the fund, the carpet retailer is not required to recycle carpet pulled out during installations. Therefore, consumers could be paying this fee assuming that their carpet will be recycled when it actually is not but... If enough consumers are motivated to ask whether their carpet will be recycled, it may motivate the retailer to participate in a recycling program.

Per the following table, the present carpet assessment fee is conservatively less than 2% of the total invoice or @ \$10 on a +\$4000 charge i.e. not much motivation to ask about what’s happening to their old carpet especially without a pro-active carpet recycling consumer education program.

<b>Material</b>	<b>Assessment Fee</b>	<b>Assessment Fee/lb</b>	<b>Average invoice</b>	<b>Assessment fee per invoice</b>	<b>% of average invoice</b>
<b>Carpet</b>	5 cents/sq yard	1 cent/pound	\$4240 - \$5300 for an average home	\$10.60	.25-.2%

<b>Paint</b>	75 cents/gallon	7.5 cents/lb	\$40 for 2 gallons for 10x10 room	\$1.50 cents	3.75%
<b>Mattress</b>	\$25/unit	25 cents/lb	\$500/ mattress	\$25	5%

If the carpet assessment fee is brought in line with the other California Product Stewardship Programs there should be more than adequate funds to solve the problems identified above regarding the California Carpet Stewardship Program and the CARE implementation plan.

**Suggested Changes in the CARE Plan regarding Assessment Fees:**

- **Increase assessment fees to meet the needs of a new, new revised Plan that will result an acceptable recycling output goal for 2016**

**Page 34 - 35 Financial Assurances**

CalRecycle and others are rightfully concerned about the potential repeat of the disposal of 32 million pounds behind the Carpet Collectors facility which was paid for by the land owners due to the lack of financial resources by the Carpet Collectors.

Per the CARE Plan, the SPC is undertaking a review of possible mechanisms to fund an assurance pool. In these efforts it should not be assumed that all carpet recycling facilities are the same. XT-Green will be filing for a Solid Waste Facility Permit to meet the requirements of Title 14 (as should all solid waste recycling facilities that generate > 10% waste). This will require completing a Operations Plan which clearly limits the on-site storage requirements and time frames for moving material and waste off-site. Storage is also regulated by the Fire Departments and Regional Water Quality Control Boards.

Rather than CARE proposing to add another level of requirements and costs associated with building and operating a carpet recycling facility, it would be better to first consider compliance with the existing California State and Local requirements, including CARE’s own AB 2398 auditing requirements. Oversight and visits by the new CARE California Program Manager should also help stop the accumulation of material well before it gets close to filling up 5 acres, 20 feet high with 32 million pounds of waste carpet.

This issue is also another reason to get the collectors into the incentive program as it will allow CARE to come on-site to stop operations like that in Oakland where nylon carpet was collected and exported and the non-nylon material left behind.

**Suggested Changes in the CARE Plan regarding Financial Assurances:**

- **Assess the use of existing California regulations and permitting requirement to ensure compliance by California processors**
- **Implement the collectors’ incentives discussed earlier in order to ensure CARE oversight and authority over their collections activities**

## **Page 36      Unfair Advantage in the Marketplace**

It is noted “the financing mechanism shall not create an unfair advantage in the marketplace.” This is exactly what happened with the CARS funding. As discussed earlier, this Plan should include a procedure for vetting of new PET technologies and products coming online to ensure that a CARS situation does not repeat itself.

## **Page 37      Verification of Ash Content**

As noted earlier, besides issuing ash analytical procedures, CARE needs to issue a sampling procedure and also include independent ash analyses as part of its audit program.

## **Page 38 - 39   Payout Assumptions**

See earlier comments regarding:

Item #5:        The need for a sliding scale on Type 1 material based on ash content and the need to have short-term Type 2 incentives to create market outlets.

Item #13:      The need now for incentives to enhance the economic stability for collectors including using these incentives to stop the export of whole nylon carpet.

## **Page 40      Non-nylon Incentives**

Table VIII shows non-nylon incentives increasing from \$260K for three quarters in 2013 to \$1.036 M in 2016. This is only two years away. It takes a long time to build a facility and/or change a process. CARE should give some indications in this Plan what is on the horizon to create these markets for the PET especially as their own PET Program Manager has gone on record saying that there are no significant solutions that will happen in the next 2 years.

(See earlier analyses regarding the impact if these solutions do not happen.)

## **Page 41      Type 2 Recycled Output**

Table IX shows the Type 2 Recycled Output increasing from \$120K in 2013 (4 million pounds) to \$242K (8 million pounds) in 2014 although during Q2 2013 it had been reduced to 0 pounds. The Plan either needs to identify how this turnaround will happen or provide incentives to make it happen as discussed above.

## **Page 42      Education and Outreach**

AB 2398 Chapter 20, Section 42972 requires the program to: *Include education and outreach program to consumers...* Consumers are listed first with specific suggestions provided to reach consumers. However, past and proposed efforts do not have the major focus on the consumer that is included in the statute and is needed for the success of the program. Consumers need to know that just because they're paying the recycling fee, that doesn't mean that the retailer where they are buying the carpet will actually be recycling their old carpet.

PaintCare has done an excellent job to educate consumers with a comprehensive ad program including half-page ads in the LA Times and public service announces on radio including NPR.

Consumer education needs to be key component of the AB 2398 program. CARE should utilize California resources such as the California Product Stewardship Council to best create a campaign to reach consumers including social marketing. This message should include the fact that all carpet is not equal when it comes to recyclability.

**Suggested changes to the CARE plan to create a consumer education (similar to the Paint program) that has a California stakeholder oversight committee and elements that include:**

- 1) Print, radio and social media advertising publishing the program.**
- 2) Flyers, door clings and recycling certificates that publicize retailers that are actually participating in a carpet recycling program.**
- 3) Counter act the “green washing” of PET carpet by publicizing that nylon carpet is the “green choice” until a solution becomes available that will solve the entire PET problem in California.**

#### **Page 55      Definitions**

As noted earlier, the terms “Collected,” “Diverted” and “Recovered” are often interchange in many of CARE reports and press releases. For example, the 2012 Annual Reports touts that 112 million pounds of carpet was “diverted” when that number included a large amount of non-recyclable carpet and process waste that was returned to landfill. Using the wrong term and wildly skew the actual reality regarding the present status of the program.

#### **Page 70      Collectors and Processors**

This chart is not correct. It includes facilities that are closed or no longer accepting carpet. It also appears to represent much higher collection capacity and lower job creating than the reality due to the fact that a high percentage of the “facilities” are rural collection trailers. (See earlier comments regarding this table.)

#### **Final Comments:**

CARE and the CalRecycle Carpet Team have done an incredible job working out the significant challenges associated with the start up of this groundbreaking carpet recycling program. Impressive progress has been made but new challenges have been created by the rapidly growing % of polyester (PET) carpet in the waste stream which is not expect to be resolved over the short term with the new incentives proposed in this new revised CARE Plan.

XT-Green is prepared to bring significant additional carpet recycling resources into California. However, the major investment required cannot be justified unless the CARE California Carpet Stewardship Plan assures that there is a viable, expanded carpet collection infrastructure in California that is incentivize to stop exporting nylon carpet and supply carpet to California carpet recyclers and create California jobs.

Thank you for your consideration and this opportunity to comment on the CARE Plan.