The State of Carpet Recycling in the U.S.

CARE Annual Meeting
Houston, TX
May 1, 2019

Dr. Robert Peoples
Executive Director
CARE
Agenda

- State of CARE
- Annual Survey Results
- CA Program Update
- VPS Program Update
- Additional Thoughts
- Open Q&A
Yes, new capacity expanding for N6 and new technology on the horizon for PET
2018 National Survey Preliminary Results

Special Thanks to Dr. Matthew Realff
Total Estimated Discards per Year

Source: 2017 CARE Annual Report
National Gross Collections

Cumulative gross collection thru 2018 > 5.25 billion pounds

Preliminary

Change in methodology

Economic downturn

Pounds ( Millions )


94 106 225 261 296 292 311 337 333 351 534 494 520 488 394 328
Recycled Output = Recycled + Reuse
Mass Balance Calculation

Preliminary

Gross Collections 319 M lbs.

Reporting Boundary
Drop in Inventory
9 M lbs.

Recycled + Reuse
193 M lbs.
(60% yield)

Landfill 98 M lbs.
WtE 13 M lbs.
CAAF/Kiln 20 M lbs.

International
4 M lbs.
2.4 M lbs. recycled
1.6 M lbs. to LF

Output = Gross Collections + International + Inventory Change = 193 + 98 + 13 + 20 + 4 - 9 = 319 M lbs. input required
Where the PCC Goes

Preliminary

- Landfill: 30%
- Recycled: 58%
- International: 1%
- CAAF & Kiln: 6%
- WTE: 4%
- Reuse: 1%
- Engineered Resins: 76%
- Raw Material: 9%
- Other: 10%
- Carpet Backing: 4%
- Carpet Fiber: 1%
So What About California?
Accusation Update

1) Fine was $3.25M for 2013, 2014, 2015

2) ALJ ruled in February reducing fine to $1.25M and stated no evidence of negligence on the part of CARE

3) CalRecycle Director disagreed, but accepted and reduced fine to $82,250 on 4/25

4) CARE rejects fine and filed appeal

6) 2016 non-compliance enforcement action
   - ALJ preliminary ruling: reduced fine from $1.8M to $725K and found no negligence - again
   - CR rejected ALJ finding – new hearing on May 8th

7) CARE position: 2018 performance was compliant:
   - RO up & no approved Plan against which to judge
AB 2398 Performance Trends (millions of pounds)

New target: 24% by 1/1/20
Calcium Carbonate (PC4) by Quarter

Impact of subsidy!

All the value is in the polymer – so how to move the other 50%?
Recycling Rate: CA vs CARE
Assessments to Fund Program

![Bar chart showing cents per yd2 from JUL 2011 to JAN 2019, with values increasing over time: 5, 10, 20, 25, and 35 cents per yd2.](chart_image)
CA Sales by Year

<table>
<thead>
<tr>
<th>Year</th>
<th>CA Sales (M square yards)</th>
<th>CA Sales Decline n Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>100.5</td>
<td>-1.6%</td>
</tr>
<tr>
<td>2014</td>
<td>98.6</td>
<td>-2.0%</td>
</tr>
<tr>
<td>2015</td>
<td>96.9</td>
<td>-2.9%</td>
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<tr>
<td>2016</td>
<td>94.1</td>
<td>-4.0%</td>
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<tr>
<td>2017</td>
<td>90.4</td>
<td>-4.8%</td>
</tr>
<tr>
<td>2018</td>
<td>86.0</td>
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<tr>
<td>2019B</td>
<td>86.0</td>
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</tr>
</tbody>
</table>

Assessment/yd²: 5¢ 5¢ 10¢ 20¢ 25¢ 25¢ 35¢
AB 1158 (Jan. 2018) - Frustration

- Added new requirements including:
  - 24% recycling rate by Jan. 2020
  - Advisory Committee

- Coming AB 729:
  - Transition Plan
  - Differential assessment by polymer type
  - 1 Year escrow to facilitate a transition if needed

- Plan finally approved February 2019:
  - 2.5 years & 6 versions
  - Conditional requirements

*Time lost in execution to respond*
VPS Update
VPS Sorted Output vs. Time

Total Payout in 2018: $2.1M
Bottom Line

- Humble beginnings
- 18 years of experience
- Tough product to recycle
- Tough markets to penetrate
- China National Sword, low oil, new virgin N6 capacity
- Plastic pollution → driving brands = good news
- Major chemical players entering market (Eastman, Indorama, P&G, Loop)
- We are making progress
- Reality: Need more time
Question to You – our Members

2020 Conference location:

Denver

Portland
Thank you

- Anthony, Melanie, Susan, Penny, Jean & Ryan
- CA Team: Jacy, Lisa, Jared, Abbie, Cheryl
- Our entrepreneurs & mill members
- Gigantic Idea Studio (GIS)
- CARE Board & Advisors
✓ Members & Guests
✓ Sponsors
✓ Exhibitors
✓ Aprio – awards celebration

THANK YOU
Questions / Comments