The Perspectives of Other Stewardship Organizations

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New Orleans, LA
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Purpose

To compare CARE and its Stewardship efforts to other Stewardship Organizations…

….BUT before we do that, let us all go, quite literally, “where no man has gone before”…
So...as you can see... 
Perspective matters
Stewardship

the careful and responsible management of someone else’s ‘something’ entrusted to one's care
<table>
<thead>
<tr>
<th>Name</th>
<th>Call2Recycle</th>
<th>TRC</th>
<th>PaintCare</th>
<th>CARE</th>
<th>MRC</th>
<th>Pharma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>Batteries**</td>
<td>Mercury Thermostat</td>
<td>Paint</td>
<td>Carpet</td>
<td>Mattress*</td>
<td>Drugs</td>
</tr>
<tr>
<td>Hazardous/Toxic</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Order of Inception</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Years of Operation (as Stewardship)</td>
<td>25</td>
<td>19</td>
<td>6</td>
<td>¥¥</td>
<td>¥</td>
<td>0</td>
</tr>
<tr>
<td>US/Canada</td>
<td>Both</td>
<td>Both</td>
<td>US</td>
<td>US</td>
<td>US</td>
<td>TBD</td>
</tr>
<tr>
<td>Voluntary / Mandates</td>
<td>Mandate &amp; Vol</td>
<td>Mandate &amp; Vol</td>
<td>Mandate &amp; Vol</td>
<td>Mandate</td>
<td>Mandate</td>
<td>Mandate</td>
</tr>
<tr>
<td>States Mandated</td>
<td>8</td>
<td>?</td>
<td>9 (8 + DC)</td>
<td>¥¥¥</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>States Voluntary</td>
<td>30</td>
<td>?</td>
<td>0</td>
<td>¥¥¥</td>
<td>49</td>
<td>0</td>
</tr>
<tr>
<td>Fee Transparent to customers</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>TBD</td>
</tr>
<tr>
<td>Est. Wholesale size of Industry ($B)</td>
<td>~12</td>
<td>?</td>
<td>0.00</td>
<td>~50</td>
<td>~10</td>
<td>?</td>
</tr>
<tr>
<td>Annual Budget ($MM)</td>
<td>19</td>
<td>1.6</td>
<td>50</td>
<td>15</td>
<td>3</td>
<td>unknown</td>
</tr>
<tr>
<td>FTE (excluding contractor)</td>
<td>35</td>
<td>6</td>
<td>37</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Collected 2014 (lbs or gal)</td>
<td>11,965,857</td>
<td>1,980</td>
<td>~8,000,000</td>
<td>435,000,000</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Recovery Rate</td>
<td>~12%</td>
<td>?</td>
<td>varies by state</td>
<td>8.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Cost per collected unit</td>
<td>$1.49</td>
<td>$793</td>
<td>$6.65 - 9.10/gal</td>
<td>$0.034</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FTE/$MM Budget</td>
<td>1.84</td>
<td>3.82</td>
<td>0.74</td>
<td>0.20</td>
<td>startup</td>
<td>TBD</td>
</tr>
<tr>
<td>Reserve (million $)</td>
<td>28</td>
<td></td>
<td></td>
<td></td>
<td>0.50</td>
<td></td>
</tr>
</tbody>
</table>

Largest Nagging Issue

- Free riders
- Diminishing product
- Different Costs per State and unit and differing reporting requirements per state
- Fiber Types (PET) and product & market outs
- TBD, but internet sales is one
- TBD

NOTES

* Uses protected areas to ensure financial stability of recyclers

** Fee based on content in grams

*** Reserve is ca. 50% but varies by state: CA is 200%, deficit in other states

¥ Startup year

¥¥ Years at Stewardship Organization

¥¥¥ Available to all states not under EPR
The Mattress Disposal Problem

- About 35-40 million new mattresses and box-springs sold annually
- Every 100 new products sold generates about 50+ discards
- Resulting in about 15-20 million discards annually
State Mattress Recycling Laws

- In 2013, California, Connecticut and Rhode Island enacted mattress recycling legislation.
- In response, mattress industry created the Mattress Recycling Council (MRC), a non-profit organization to implement these new laws.
- MRC will design, implement and administer mattress recycling programs in states with such laws.
Program Requirements

- Manage and dismantle discarded mattresses
- Collect or receive mattresses from municipal waste sites, retailers, bulk generators and consumers
- Funded by “visible” recycling fee collected from customer on each sale
- Since each state and its law is different, MRC will propose (and state will approve) separate fees for each state
State Program Schedules

Each law requires MRC to submit a mattress recycling plan to state authorities

Connecticut
- Plan approved: December 31, 2014
- Implementation: May 1, 2015
- Fee: $9/Unit

California
- Program plan due: July 2015
- Expected implementation: Spring 2016
- Fee: TBD

Rhode Island
- Program plan due: July 2015
- Expected implementation: Spring 2016
- Fee: TBD
North American: Battery Collection Performance

3-Year Battery Collection Trends with Annual Growth Rate

<table>
<thead>
<tr>
<th>Year</th>
<th>Rechargeable</th>
<th>Primary</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>7,856,645</td>
<td>2,462,879</td>
<td>10,319,524</td>
</tr>
<tr>
<td>2013</td>
<td>8,081,367</td>
<td>3,515,117</td>
<td>11,596,484</td>
</tr>
<tr>
<td>2014</td>
<td>7,742,373</td>
<td>4,223,195</td>
<td>11,965,568</td>
</tr>
</tbody>
</table>

-4% 3% 3% 12% 20%
North American: Battery Collection Performance

3-Year Collections: USA vs. Canada with Annual Growth

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>2,948,626</td>
<td>7,390,821</td>
<td>6,924,872</td>
</tr>
<tr>
<td>Canada</td>
<td>7,370,898</td>
<td>4,205,663</td>
<td>5,040,696</td>
</tr>
</tbody>
</table>

Annual Growth:
- US: 43% (2012 to 2013)
- Canada: -6% (2012 to 2013)

The data shows a noticeable increase in collection performance for both countries from 2012 to 2013, with the USA showing a 43% increase and Canada showing a slight decrease of 6%. For the year 2014, the USA collected 6,924,872 pounds, while Canada collected 5,040,696 pounds.
### 2013 and 2014 Applicable Volume in lbs

<table>
<thead>
<tr>
<th></th>
<th>Canada</th>
<th>USA</th>
<th>Canada + USA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary Batteries</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alkaline</td>
<td>3,148,530</td>
<td>3,829,082</td>
<td>392,038</td>
</tr>
<tr>
<td>Lithium</td>
<td>3,064,525</td>
<td>3,695,495</td>
<td>348,576</td>
</tr>
<tr>
<td>Zinc Carbon(no mercury)</td>
<td>58,211</td>
<td>101,201</td>
<td>43,286</td>
</tr>
<tr>
<td>Mercury</td>
<td>25,397</td>
<td>32,319</td>
<td>54</td>
</tr>
<tr>
<td>Mercury</td>
<td>397</td>
<td>68</td>
<td>122</td>
</tr>
<tr>
<td><strong>Rechargeable Batteries</strong></td>
<td>1,082,530</td>
<td>1,211,691</td>
<td>6,998,837</td>
</tr>
<tr>
<td>NiCd</td>
<td>424,056</td>
<td>439,367</td>
<td>2,496,640</td>
</tr>
<tr>
<td>Li-Ion</td>
<td>243,021</td>
<td>307,215</td>
<td>1,849,869</td>
</tr>
<tr>
<td>Lead</td>
<td>296,270</td>
<td>347,152</td>
<td>1,933,598</td>
</tr>
<tr>
<td>Ni-MH</td>
<td>119,184</td>
<td>117,957</td>
<td>718,730</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Canada</th>
<th>USA</th>
<th>Canada + USA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Batteries</strong></td>
<td>4,231,093</td>
<td>5,040,813</td>
<td>7,390,892</td>
</tr>
<tr>
<td>Box</td>
<td>1,815,003</td>
<td>2,018,125</td>
<td>4,845,737</td>
</tr>
<tr>
<td>Bulk</td>
<td>2,387,505</td>
<td>3,011,086</td>
<td>2,450,095</td>
</tr>
<tr>
<td>Non Call2Recycle Box</td>
<td>28,584</td>
<td>11,602</td>
<td>95,061</td>
</tr>
</tbody>
</table>
Increased Efficiencies Continue

Call2Recycle Collections vs Program Cost per Lb.

- Battery Collections (Lbs)
- Cost Per Pound

Year | Battery Collections | Cost Per Pound
--- | --- | ---
2007 | $2.92 | 
2008 | $2.68 | 
2009 | $1.69 | 
2010 | $1.69 | 
2011 | $1.55 | 
2012 | $1.56 | 
2013 | $1.46 | 
2014 | $1.49 |
The Vermont Law

- Only US state to mandate collection of primary batteries (effective January 1, 2016)

- Expect at least 30%+ “free-riders” based on carving out batteries in products (we’ll get them anyway) and internet sales

- 90%+ of the identified obligated steward sales have signed up with the Call2Recycle® program

- No manufacturer has Vermont specific data. Relying on per capita calculations to determine sales

- Plan will be submitted by May 1; decision by end of September

- The state has set a high bar on education and outreach activities.
Critical Call2Recycle, Inc.  
Issues

- **Participation.** As a voluntary program in most states, 30%-35% of our waste stream is from non-participating stewards.

- **Enforcement.** Heretofore, states have been very reluctant to enforce participation even when required by law. Vermont maybe an exception.

- **Data.** Industry cannot determine “sales into the market”. Real market share data doesn’t exist.

- **Cost Internalization.** *Batteries is one of the only areas where there are no explicit fees which is beginning to harm industry’s finances.*

- **Operational Efficiencies.** Limitations on efficiencies given the mass, breadth and risks associated with batteries.
About TRC

- Industry stewardship reclamation program for end-of-life mercury thermostats
- Non-profit founded nearly 20 years ago by Honeywell, White-Rodgers, and General Electric; 30 manufacturers now participate
- Mission is to promote and facilitate the proper management of end-of-use mercury containing thermostats through reverse distribution
History of TRC’s Program

**Beginning**
TRC was officially incorporated

**1996**
First Programs
Initiated programs in 9 states

**1998**
National Programs
Expanded voluntary program nationally

**2002**
First Mandatory Programs
Maine thermostat law is passed

**2006**
200K Unit Milestone
Collections exceed 200K units for first time

**2010**
NEMA Transition
Moved headquarters to Alexandria, VA

**2013**
Record Breaking Year
Collections exceed 203K units for first time
How the Program Works

1. Mercury thermostats are removed from service

2. Thermostats are brought back to be stored in TRC bin

3. When bin is filled it is sent to TRC’s processing facility in MN

4. After processing, the empty bin is returned to start the process again
Program Results

Budget as a Comparison to Thermostats Collected
PaintCare Program