

Carpet Recycling Business Roundtable #1 – removal, collection and sorting September 29, 2009

Notes

Participants:

Shirli Axelrod – Seattle Public Utilities
Peter Bailey – J+J/Invision*
Kris Beatty – King County Solid Waste Division & LinkUp
Fred Beggs – Shaw Contract Group
Russell Bennett - Tandus
Jim Birney - Great Floors
Glenn Bode – Patcraft and DesignWeave Carpet
Steve Brownlee – Shaw Contract Group
Sandra Brumbaugh – Patcraft and DesignWeave Carpet
Jeff Callison – Patcraft & DesignWeave Carpet
Bill Capito – Applied Thermoplastic Resource
Dee Cassell – Texas Carpet Recycling
Bruce Clark – United Recycling & Container
Julie Colehour – Colehour+Cohen
Karen Cook – Interface Americas, Inc
Joyce Cooper – Univ. of Washington
Jeff Denckla – Alliance Flooring Services
Stan Dunford – Atlas Carpet Mills
Karl Englund – Washington State Univ.
Sarah Fenner – Division 9 Flooring
Dave Gagner – Pacific Urethane Recycling
Stephen Gerritson – Enterprise Seattle
Paul Gibian - Tandus
Terry Gillis – Recovery 1, Inc
Brad Gilman – Shaw Industries Group
Eun-Sook Goidel – Full-Circle Environmental
Jim Gravalis – G&W Commercial Flooring
Ronald J. Greitzer – Los Angeles Fiber
Julia Gutt - Invista
Tiffany Hatch – Seattle Goodwill*
Sean Higbee – Bentley Prince Street
David Holt – Applied Thermoplastic* Resource
Preston Horne-Brine – Fluxion Enterprises
Ernest Humphrey – Mohawk Industries
Frank Hurd – Carpet & Rug Institute
Sego Jackson – Snohomish County Solid Waste Division
Michael Jensen – Rubenstein's
Don Johnson – Colorado Reclamation Services*
Mary E. Johnson - Colorado Reclamation Services*
Todd Johnson – CDL Recycles
Steven Jones – Shaw Industries Group
Meg Keogh – JKT Development*
Scott Klag – Oregon Dept. of Environmental Quality*
Leslie Kochan – Oregon Dept. of Environmental Quality
Robert Komrij – Atlas Carpet Mills
Debbie Landry – Mohawk Industries*
Karen K. Leonas – Washington State Univ.
Dick Lilly – Seattle Public Utilities*
David Lockwood – Benchmark Recycling Inc
Jay Loughran – The Mohawk Group
Joe McBride – American Drapery and Blind
Bob McCaslin – Alliance Flooring Services
Shannon McClelland – Washington Dept. of Ecology
Don Messick – West Coast Flooring
Kris Painter – Colorado Reclamation Services*
James Palmer – WA Dept. of Commerce
Garry Penning – Rogue Disposal
Dave Peters – Kitsap County Solid Waste
Lynn Preston – Tandus/C&A Floorcoverings
Don Richmond – American Drapery and Blind
Pat Rogers – Masland Contract
Wyatt Rollins – Shaw Industries
Tony Rounds – Fibres International
Lisa Sepanski – King County Solid Waste Division
Jay Shepard – WA Dept. of Ecology

Ron Sherga - Sher-Results LLC
Bill Smith – City of Tacoma*
Todd Smith - ReNu Recycling Services
Wendell Smith – Rogue Disposal
Dave Spannaus – West Coast Flooring
Susan Spuhler – Intevac
Photonics/DeltaNu
Tim Stearns – WA Dept. of Commerce*
David Stitzhal – Full Circle Environmental
Jeremy Stroop - CARE

Jason Thiry – Patcraft & DesignWeave
Carpet
Rick Tipton – Interiors Northwest of
Puyallup
Debbie Tott – Washington Floor Covering
Association
Marty Turpin – Washington Floor Covering
Association
Ken Way – J+J/Invision
Greg Whitman – The Mohawk Group
Chuck Young – Division 9 Flooring

*RSVPed to attend; may have joined by phone

Round Table Question #1:

What actions are needed by whom to get carpet recycling (removal, collection and sorting) established in the Northwest?

- Keep an eye on the federal regulation and follow it.
- Asbestos-contaminated carpet is a big issue for flooring sellers who want to recycle. To get retail support, the industry must hold generator sector responsible. Hot loads require tremendous cost and effort. Documentation about asbestos/asbestos-free loads will be the key in this effort.
- Re: asbestos, it's never been in carpet according to Carpet America Recovery Effort (CARE). Training is needed for installers and dealers about preventing asbestos contamination during removal. Also, need to see more support for recycling in procurement in the NW.
- WA Commerce Department sees need to see increased demand for products made with recovered carpet fiber. This requires local products using the feedstock.
- Pacific Urethane is working with Shaw to get large retailers on board. Incentives to keep materials clean are not sufficiently in place for installers. The incentive now is for disposal. Much of the waste stream is Nylon 6, which he could handle, but it's hard to get sorted.
- Flooring seller example of working with selected installers. Gaining success with installers. Meet with them twice per year. Installers must feel you are real about your commitment to recycle. The work has to start with dealers and the guys in the field. Other recyclables can be dropped off at the same time as carpet with their process. Architects and owners must also make specifications. Also, establishing approved collection sites at more locations would help.
- Property managers and owners must be involved and prohibited from contamination.
- Installer contamination is an issue.

- Two pinch points noted: One is high recovery and transport cost is a disincentive. Most carpet coming out is handled by independent sub-contractors and going to transfer stations as trash. Two, need to get government involved in the sorting and grading; there is a cost, but that is necessary, as with other recyclables.
- Effective collection is not a barrier. Rather, you need the pull-through, a valuable end-market solution to keep the process alive. There is also a lack of markets for all four fiber types.
- Recovery 1 feels although contamination is a problem, but we can get past that; it is federal law to address asbestos before remodel/demolition. Agrees that market is the key ingredient. The stream of material coming in is not a problem. A local processing infrastructure is critical so as to avoid the cross country freight costs.
- WA Dept of Ecology asks: Where are the markets now? Are they domestic? Local? Export to Georgia?
- CARE rep Jeremy Stroop indicates pre-processing locally is important. Waste-to-Energy (burning carpet) may also play a role for material with no viable recycling alternative. Classifying it as a renewable resource could help. Nylon 6, Nylon 6-6, PP, PET. First two fiber types are the primary ones being recycled. Carpet pad can handle all resin types, as can some other applications.
- CARE/CRI rep Frank Hurd underscores need for pre-processing. Then send just the fiber, not the calcium-carbonate, to the processing plants. Establishing regional facilities is also critical. Another point: government specifications for products made with recovered fiber are also needed (carpet pad, sound barriers, etc.).
- LA Fibers offers a number of years of experience, and agrees NW processing facility is necessary. And in order to get Nylon 6, you need to sort 100% of in-coming material. Also, contamination must be stopped.
- Local govt rep asks, what is the policy action that could drive some of the solutions? For example, the Waste-to-energy issue brings up policy issues around what is “renewable.”
- Government purchasing specifications for carpet replacement say, “recycle when possible.” This leaves a big ‘out.’
- Plas2Fuel is a firm in Oregon making diesel fuel from plastics, such as using nursery scrap (flower pots) and agricultural film now. They just shipped their 5th tanker of fuel last week. It might be worth exploring since it is regional.
- End use markets are critical.
- Do we know how much carpet was reclaimed in the past year, and what percentage of recovery we are getting?
 - 5 billion lbs post-consumer in US.
 - 300 million recycled.
 - 17 lbs carpet per person per year generated.

- Where does the carpet go that is not recycled? Either landfilled or stockpiled at a recycler. Holding it out in a separate container has a cost associated with it. These costs must be covered, through some model, e.g. producer responsibility.
- Other recyclables (cans, paper) took mandates and other market development to mature. Demand is missing here so far for carpet. Government must look toward post-consumer content, including carpet-to-carpet 'closed loop', carpet-to-other-end-product 'open-loop', and recycling of post-industrial waste.
- Third-party certification is necessary as products are being sold to the consumer. Avoid green-washing.
- If there is an after-market demand for type 6-nylon, why do WA govt. agencies not specify that when they buy carpet, since it can be recycled, and has after-market value? Type 6-6 has no after-market need right now.
- Is carpet manufactured in the NW? No -- mostly in GA; some in CA. 90% in GA.
- Comment from CARE, re: waste-to-energy: it is the least desirable, but a viable option we need to look at. Though not necessarily economically viable. If we only specify products we have end markets for, we limit ourselves. We must find outlets, and look at all resins.
- Alternative fuel is an important option, from the experience of Texas Carpet Recycling. It's a very different process from waste-to-energy. Waste-to-energy is limited by heat capabilities, labor intensive and size requirements. Alternative fuel is primarily shredded carpet, baled for transport to cement kilns. Carpet tiles can also be used as alternative fuel. LaFarge (cement kiln) in Seattle area has some interest.
- Are there existing efforts to help support end-markets that we can support?
- Re: supporting end-markets, producers have been answering demands for indestructible carpet, which means not readily recyclable/reusable. Recycling interests need carpet manufacturers' R&D help to develop a new product that is recoverable/recyclable.
- Government must use the power of the purchase order (to promote markets for and buy products made with recovered carpet fiber). They have not sufficiently exercised this option yet.
- On Oct. 16th, Seattle Public Utilities and CARE have arranged a meeting specific to NW public agency/government procurement. Jeremy and Shirli are the organizers. Specification writers (for products other than just carpet) and purchasing agents from numerous agencies in the area have been invited; good response in rsvp's already.
- If someone has a new idea for using post-consumer resins, who can be approached for assistance? Several suggestions offered in answer to this question:
 - Shaw
 - Mohawk, Greg Whitman
 - WA Dept. of Commerce noted many resources, James Palmer

- King County LinkUp, Kris Beatty
- Polymer Centers for Excellence
- Plastics Council of America
- Higher Education (e.g. Joyce Cooper at UW & WA Technology Ctr.)
- Mohawk manufactures using all types of fibers, and they have end use markets for all. It's economically viable. But it's regional; it's in Georgia. The auto industry is accepting Nylon 6-6. How do we bring it here (to the northwest) is the question.
- Economic development interests need to know where to get specifications on the recovered fiber products? WA Department of Commerce works with manufacturing organizations that require clear, accurate specifications to meet their end-product properties and criteria, composition, etc. Sources offered in reply:
 - CARE has specifics for products.
 - Mohawk has branded products with labels, including feedstock that substitute for virgin material.
 - Plastics Council can also help with specifics.

Roundtable Question #2:

What is the one most important thing that would need to happen for your organization to get involved, or expand your involvement, in carpet recycling?

- Alliance Flooring has recycled before, and would like to start again, but contamination is an issue for installers, maintenance folks. There must be a way to ID the carpet so that if it tests hot [positive for asbestos], the right person gets the bill. Enforcement is absent, and the recycler gets hit.
- Repeat customers are critical (LA Fibers).
- Invista has the longest, oldest carpet take-back in US for Nylon 6 and 6-6. Sending carpet to GA is the biggest issue. Customers specifying reclamation on West Coast are needed to get a plant out there.
- Seattle contract requires recycling, but there has been no purchasing on the other end of the contract yet.
- Manufacturers, dealers and recyclers are all in the room and willing. All we need now is government mandates. If you said I had to recycle starting tomorrow, I would. Cheaters will be out there, but that's business. A landfill ban would drive market creation.
- Reuse some of this material. Division 9 Flooring has done it before. Non-profits will pay for updating to reused carpet.
- In regards to mandating recycling, where are you going to send the material? There has to be a pull-through to make this work. The market is already flooded with collectors. That's in place. We need end-market outlets. Purchasing and specifications are an important next step. (CARE)

- If there was a government commitment to purchasing post-consumer recycled carpet, is there support for providing it?
 - Shipping is cost prohibitive; need local processing.
 - There is no shortage of post-consumer resins. Cradle to cradle, post-consumer content is critical.
- Landfills are always the back-up market. If recycling isn't required, those businesses that adopt recycling practices are hurt compared to their competitors who don't.
- As a recycler, Applied Thermoplastic Resource is faced with the contamination. Also, specifications are built around virgin materials; we can meet that. The question is, where do you find the market, and stay competitive with virgin material with mandates/ requirements?
- There is support for recycling, but there is also opposition to bans. It's not just a lack of end markets. There need to be some regulations, disposal bans, required recycling, recycled-content requirements, producer responsibility, all meant to level the playing field, establish a new standard.
- If there is a mandate, are the collection opportunities available?
- What capacity is there to expand?
 - Pacific Urethane has capacity to expand substantially, especially with Nylon 6. But it is having trouble getting flooring companies to change and to work with their installers.
 - Recovery 1's experience is that a facility has to be able to handle all resins; folks won't drive to different locations. On the cost side, transportation is hard to predict. It can work. But first the Nylon 6 and Nylon 6-6 issue must be resolved. Once that's done, Recovery 1 can handle a lot of material. There also must be a high value product on the back end of the system.
- Also on Seattle contract, there are no orders yet. Shipping to GA is expensive. A state requirement would help. Regional reclamation facility on West Coast would be great, whoever does it.
- ReNu can haul, but where are they going to take it?
- What is the cost for shipping to GA? How can that be offset? Could local tip fees be increased, along with a tax advantage or recycling? As volumes to GA increase, cost will come down.
- Pacific Urethane can recycle 30% of what's out there now (Nylon 6). If the company could recycle more, the installers could be convinced to work with it.
- In response to making recovery mandatory without a pull-through, it is problematic. The markets need to be sustainable, and have increasing value. Stimulating supply without demand is problematic for pricing, quality, etc. Strong end-use demand must be in tandem with increased supply.

- Transfer stations can play a role in collecting marketable materials in a cost-effective way.
- Cost effectiveness, competitiveness, mandates and further development of the markets are primary concern of most. Look for more input from general contractors on how to make recycling more attractive and an integrated part of their service.
- See carpet pages on the LinkUp Web site: www.kingcounty.gov/linkup