

A Memorandum of Understanding for

---

**Carpet Stewardship**

**January 2002**

## Negotiated Outcomes for Carpet

### List of Participants

Paul Ashman *Environmental Recovery & Consolidation Services*  
Phil Bailey *SustainAbility*  
Diann Barbacci *Lees Carpets*  
David Blackwood *Honeywell/Evergreen Nylon Recycling*  
Werner Braun *Carpet & Rug Institute*  
William Bree *Oregon Department of Environmental Quality*  
Dobbin Callahan *Collins and Aikman*  
Liz Christiansen *Iowa Department of Natural Resources*  
Hallie Clemm *Maryland Department of the Environment*  
David Cretors *Recycle Iowa-IDED*  
Ed Duffy *Honeywell/Evergreen Nylon Recycling*  
Howard Elder *J & J Industries*  
Frank Endrenyi *Mohawk Industries*  
Sherry Enzler *Minnesota Office of Environmental Assistance*  
Matt Ewadinger *North Carolina Department of Environment & Natural Resources*  
Robert Fensterheim *SBLC*  
Henry Ferland *U.S. EPA Headquarters*  
Ken Fontaine *Beaulieu Group*  
Hugh Gardner *BP*  
Jeff Geerts *Iowa Department of Natural Resources*  
Wayne Gjerde *Minnesota Office of Environmental Assistance*  
Jim Hartzfeld *Interface*  
Kirk Hendrix *Private consultant*  
Garth Hickle *Minnesota Office of Environmental Assistance*  
Steve Hillis *Mohawk Industries*  
Steve Hoffmann *Milliken Carpet*  
Gordon Hui *U.S. EPA Headquarters*  
Frank Hurd *Carpet & Rug Institute*  
Bob Ingram *Beaulieu Group*  
Tom Lape *Mohawk Industries*

John Leigh *Northeast Recycling Council*  
Claire Lindsay *U.S. EPA Headquarters*  
Steve Long *Massachusetts Department of Environmental Protection*  
Ken McIntosh *Carpet & Rug Institute*  
Carey Mitchell *Shaw Industries*  
Chris Mitchell *Krupp Polysius Corp.*  
Larry Moot *Project Consultants & Associates*  
Rick Muller *California Integrated Waste Management Board*  
Bill Oler *Carpet Cushion Council*  
Bob Peoples *Solutia Inc.*  
Dale Phenicie *Carpet & Rug Institute*  
Julie Rhodes *ReDO*  
Lynn Rubinstein *Northeast Recycling Council*  
Paul Ruesch *U.S. EPA Region 5*  
Mark Ryan *DuPont*  
Richard Scott *BASF/SBLC*  
Bill Sierks *Minnesota Office of Environmental Assistance*  
Todd Smiley *U.S. EPA Region 4*  
Lucy Stanfield *U.S. EPA Region 5*  
Sarosh Sukhia *Environmental Recovery & Consolidation Services*  
Chris Taylor *Oregon Department of Environmental Quality*  
Grace Terpstra *Project Consultants & Associates*  
Mark Terry *Krupp Polysius Corp.*  
Mark Thomann *Mannington Commercial*  
Larry Umstadter *Project Consultants & Associates*  
Paul Wiegner *Wisconsin Department of Natural Resources*  
John Wiley *Solutia Inc.*  
Kelly Wilson *Minnesota Office of Environmental Assistance*  
Phil Wilson *BASF*  
Catherine Wilt *University of Tennessee Center for Clean Products*

## **A Memorandum of Understanding on Carpet Stewardship**

This Memorandum of Understanding (Agreement) is entered into between the undersigned carpet manufacturers, fiber manufacturers, material suppliers, (hereinafter collectively referred to as the Carpet Industry) state governments, the U.S. Environmental Protection Agency (hereinafter collectively referred to as Government Entities), and non-governmental organizations (hereinafter collectively referred to as NGOs) as an expression of their good faith agreement to accomplish the Negotiated Outcomes Goals pursuant to the roles and responsibilities set forth in this Agreement.

### **Creates No Binding Obligation**

Nothing contained in this Memorandum of Understanding is intended to create a legally binding obligation or rights on any signatory hereto or any third party not a signatory to this agreement. Notwithstanding any language used herein that may give rise to a contrary implication, this document creates no legal rights or obligations.

### **Preamble**

This memorandum represents a voluntary, good faith and transparent partnership between the Government Entities, members of the carpet industry and NGOs to increase the value recovered from post-consumer carpet. While the focus of the Negotiated Outcomes is to increase the reuse and recycling of carpet, the signatories recognize that long-term efforts must address all the social, environmental and economic facets of what is becoming commonly known as sustainable development.<sup>1</sup> This agreement is meant to promote the concept of product stewardship, which asks manufacturers to reduce the environmental impacts of their product throughout its life cycle.<sup>2</sup>

While technical, logistical and communications barriers exist to economically recovering carpet, the Negotiated Outcomes signatories are committed to working together to overcome these barriers and to develop a system that treats discarded carpet as a resource rather than a waste product.

### **Issue background**

In January 2001, the Carpet and Rug Institute (representing over 90% of the carpet industry) and the Minnesota Office of Environmental Assistance (representing state governments participating in the Midwestern Workgroup on Carpet Recycling) signed a Memorandum of Understanding to achieve the following:<sup>3</sup>

---

<sup>1</sup> Sustainable development means development that maintains or enhances economic opportunity and community well being while protecting and restoring the natural environment upon which people and economies depend. Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs.

<sup>2</sup> Product stewardship means that all parties involved in designing, manufacturing, selling and using a product take responsibility for environmental impacts of the product at every stage of that product's life.

<sup>3</sup> For more information on the Midwestern Workgroup on Carpet Recycling and the January 2001 Memorandum of Understanding, please see <http://www.moea.state.mn.us/carpet/>.

- **Negotiated Outcomes.** To achieve the goal of a flexible and sustainable voluntary industry-led approach, manufacturers and government will develop a negotiated schedule for the eventual elimination of land disposal and incineration with energy recovery of post-consumer carpet and establish escalating goals for recycling and reuse, both in a manner consistent with resource conservation.<sup>4</sup> It is recognized that significant technical and logistical challenges currently exist that will require finding new or yet unrecognized solutions.
- **Third-Party Organization.** The carpet industry will establish a small and effective third party organization (3PO) that will be responsible for seeking to achieve the negotiated outcomes to increase the recycling and reuse of post-consumer carpet in a manner consistent with resource conservation. It is understood that the 3PO will examine the formulation of partnerships, joint working relationships, joint promotion, and joint responsibilities in order to achieve the negotiated outcomes.
- **Model Procurement Guidelines.** It is further understood that the workgroup will seek to develop and agree upon model procurement guidelines for public entities to adopt. These model procurement guidelines for environmentally preferable carpet will be tailored to support the efforts of the third party organization.<sup>5</sup>

With the signing of the January 2001 Memorandum of Understanding, state governments and the carpet industry agreed to jointly develop the Negotiated Outcomes Goals.

The Negotiated Outcomes participants (hereinafter collectively referred to as the Negotiated Outcomes Group) included carpet manufacturers, the Carpet and Rug Institute, fiber manufacturers, material suppliers, seven state governments (California, Iowa, Maryland, Massachusetts, Minnesota, North Carolina and Oregon), the U.S. Environmental Protection Agency, and non-governmental organizations (the Northeast Recycling Council and the Reuse Development Organization). The Negotiated Outcomes process was facilitated by the Center for Clean Products and Clean Technologies at the University of Tennessee.

---

<sup>4</sup> The term resource conservation refers to the reduction in the use of water, energy and raw materials.

<sup>5</sup> Since January 2001, state government and industry representatives have been collaboratively working to create model procurement guidelines that will encourage the purchase of environmentally preferable carpet and bolster the Negotiated Outcomes Goals. It is anticipated that the guidelines will be completed by the end of 2001.

**NOW THEREFORE, the undersigned parties to this Agreement agree as follows:**

**1. Aspirational Goal**

As stated in the January 2001 Memorandum of Understanding for the Midwestern Workgroup on Carpet Recycling, the aspirational goal is the development of a flexible and sustainable voluntary, industry-led initiative by which manufacturers and government will develop a negotiated schedule for the eventual elimination of land disposal, incineration and incineration with energy recovery of post-consumer carpet and establishing escalating goals for recycling and reuse consistent with resource conservation. The Negotiated Outcomes Goals should be viewed as steps toward the industry's long-term commitment to achieve the aspirational goal.

**2. Negotiated Outcomes**

**a. Background and Definitions**

For the purposes of this Agreement, the Negotiated Outcomes Group established national goals and a ten-year timeframe for the management of discarded carpet, using the following management methods: reuse, recycling, use of cement kilns and waste-to-energy facilities, and landfilling. See Appendix A, Summary of Goal Areas, which is attached hereto and made a part hereof. In establishing these goals, the Negotiated Outcomes Group used available information on the amount of carpet destined for each management method in 2001.

For the purposes of this Agreement, these terms are defined as:

- (1) Reuse: The reuse of recovered carpet in a manner that retains the original purpose and performance characteristics of the carpet.<sup>6</sup>
- (2) Recycling: Recovering or otherwise diverting recovered carpet from the solid waste stream for use in one of the following ways:
  - Closed loop recycling, where the carpet is recycled back into carpet product and/or carpet product components.
  - Recycling into feedstock (raw material) for other value-added products.

Recycling does not include carpet used for alternative fuels, incineration or waste-to-energy.
- (3) Cement kilns: The use of recovered carpet as an alternative fuel source and as an additive in cement production.
- (4) Waste-to-energy: A technology that uses recovered carpet as a fuel source to generate electricity.
- (5) Landfilling: Landfilling includes the placement of recovered carpet into a permitted landfill disposal facility.

---

<sup>6</sup> The term recovered means waste material and byproducts which have been recovered or diverted from solid waste, but the term does not include those materials and byproducts generated from and normally reused within an original manufacturing process.

**b. Goals for 2012**

The Parties to this Agreement have established the following national goals for 2012.<sup>7</sup> The Parties further agree to a total landfill diversion goal of 40% to be achieved by the following range of management methods and allocated as follows:<sup>8 9</sup>

- (1) Reuse: 3-5% At least 200 million to 340 million pounds (101,500 to 169,500 tons)
- (2) Recycling: 20-25% At least 1.4 billion to 1.7 billion pounds (677,000 to 846,500 tons)
- (3) Cement kilns: 3% or 200 million pounds (100,000 tons)
- (4) Waste-to-energy: 1% or 67 million pounds (34,000 tons)

Landfills and/or incinerators will receive a maximum of 4.1 billion pounds in 2012 or 60 percent of discarded carpet. For purposes of comparison, the Carpet and Rug Institute provided baseline estimates for carpet disposal in 2002. This estimate shows disposal of 4.68 billion pounds of carpet, with approximately 5% being managed through reuse and recycling opportunities.

These goals for the year 2012 shall collectively be referred to as the Negotiated Outcomes Goals.

To encourage the collection infrastructure for reuse and recycling, the goals for cement kilns and waste-to-energy are the maximum amount of recovered carpet to be directed to these management methods. If new research, large-scale kiln test burn results, or other information is presented to the CARE Executive Committee that the Committee, after deliberation, concludes reasonably demonstrates that an increase in the amount of carpet managed in cement kilns will substantially improve the collection infrastructure for carpet recycling, then the CARE Executive Committee may reconvene the MOU signatories. The MOU signatories will review all relevant data, including an assessment of the economic and environmental benefits, the existing regulatory environment, and the potential for enhanced infrastructure development. If warranted, a change in the Negotiated Outcomes goal for cement kilns will be reached by consensus.

The Parties agree that the Negotiated Outcomes Goals are the first steps toward reaching the aspirational goal of removing carpet from the national waste stream. Pursuant to the terms set forth in Section 4 of this Agreement, the Parties agree that the progress toward the Negotiated Outcomes Goals shall be regularly evaluated and that commencing in 2010 the parties shall set goals for the years 2012-2022.

---

<sup>7</sup> Please refer to the appendix for a chart with the Negotiated Outcomes Goals for 2012 as well as interim goals.

<sup>8</sup> The goals, as stated, do not add up to 40%. The goals for individual management methods are expressed in a range to allow some flexibility to achieve and potentially exceed the 40 percent overall diversion goal.

<sup>9</sup> These goals represent a consensus agreement to recover the maximum amount of value from carpet consistent with resources conservation. Further, it is recognized that cement kiln and WTE applications are lower on the value recovery chain than recycling, but still preferable to incineration and landfilling.

### **3. Roles and Responsibilities of the Parties**

#### **a. Carpet America Recovery Effort (CARE)**

For purposes of implementing this agreement, the Carpet Industry has established a third-party organization known as the Carpet America Recovery Effort (CARE).

The Carpet Industry agrees to work through CARE to achieve the Negotiated Outcomes Goals set forth in Section 2 of this Agreement, using market-based solutions for recovering the value from post-consumer carpet. The Carpet Industry agrees to use CARE to:

- Enhance the collection infrastructure for post-consumer carpet.
- Serve as a resource for technical, economic and market development opportunities for recovered carpet.
- Develop and perform quantitative measurement and reporting on progress toward the Negotiated Outcomes Goals as set forth in Section 4 of this Agreement.
- Work collectively to seek and provide funding opportunities for activities to support the Negotiated Outcomes Goals.

#### **b. Carpet and Rug Institute (CRI)**

CRI commits to the following activities to assist in achieving the Negotiated Outcomes Goals for the management of post-consumer carpet. Provided services include:

- Chairperson of CARE
- Staff support for each of CARE's committee and subcommittees.
- Secretarial, communication, logistical support for CARE's meetings.
- Act as a technical resource link between the carpet industry and others such as collection agents and value-added manufacturers to maximize the reuse and recycling of carpet.
- Provide technical consultation and support to other signatories on procurement of environmentally preferable carpet.

#### **c. Carpet Industry<sup>10</sup>**

The Carpet Industry acknowledges that it has primary financial responsibility for the implementation of the Negotiated Outcomes Goals.

#### **d. Government Entities**

The Government Entities agree to assist CARE in achieving the Negotiated Outcomes Goals set forth in Section 2 of this Agreement. Their tools may include, but are not limited to:

- Participating on the Executive Committee and subcommittees of CARE.

---

<sup>10</sup> "Carpet Industry" refers to the universe of participants involved in the production of carpet, including carpet manufacturers, fiber manufacturers, material suppliers, etc. It includes, but is not limited to, the members of CRI.

- Increasing the number of states supporting the Negotiated Outcomes Goals.
- Providing technical and financial assistance for market development opportunities, when feasible, to carpet reuse and recycling initiatives.
- Developing, adopting and promoting the model procurement specifications by signatory and non-signatory states.
- Employing policy and regulatory tools as appropriate to bolster the agreement and implementation toward meeting the goals such as incentives for recycling carpet and/or disposal bans and manufacturer responsibility measures.<sup>11</sup>

**e. Non-Governmental Organizations**

Non-governmental Organizations that are signatories to this Agreement commit to the following activities to assist in achieving the Negotiated Outcomes Goals set forth in Section 2 of this Agreement:

- To participate in one or more of the CARE subcommittees and the CARE Executive Committee as appropriate.
- To provide technical assistance for reuse and recycling of carpet as applicable within the scope of their mission, goals and fiscal circumstances.
- As appropriate, assisting with data collection, public education in support of carpet reuse and recycling, and other outreach efforts.

**4. Evaluation and Performance Schedule**

**a. Progress Reports**

The Carpet Industry and the Government Entities agree that they shall be jointly responsible through CARE for monitoring, assessing and reporting on the progress toward the Negotiated Outcomes Goals as set forth Section 2 of this Agreement. While reporting on the progress toward the Negotiated Outcomes Goals is the responsibility of CARE, stakeholders from both the government and non-government organizations will maintain active roles in CARE to assist with data collection, analysis, and program evaluation to ensure transparency in reporting on the status of activity.

In each case where a report is required under this agreement the report shall at a minimum include progress toward meeting the Negotiated Outcomes Goals identified in Section 2, The CARE reporting schedule shall be:

- (1) **Annual Report.** CARE shall publish an annual report on or before March 31 of each year commencing in March 2003. This report shall contain, at a minimum, an update on market development opportunities for recovered carpet, information on quantities managed through the various management options outlined in the Negotiated Outcomes Goals, an

---

<sup>11</sup> By signing the Agreement, the government signatories in no way abrogate their statutory or regulatory authority and responsibilities, nor remand, repeal, or otherwise alter the laws or regulations of their states and their agencies, including those of regional, county and local governments, and may exercise their statutory and/or regulatory authority during the life of the Agreement.

assessment of successes and obstacles encountered during the reporting period, a summary from each signatory state on its efforts to remove obstacles and present opportunities within their respective state, an assessment from U.S. EPA on federal initiatives taken over the last year and planned initiatives, and an overview of planned activities, financial planning and priorities for the coming year. These reports shall be made available to the public through the CARE website and through any other means the parties deem appropriate. Please see the evaluation criteria below for further detail.

- (2) **2005 Report.** On or before March 31, 2005, CARE shall produce a status report documenting progress made toward meeting the first interim management goals as set forth in Appendix A of this Agreement which is attached hereto and made a part hereof.
- (3) **2007 Report.** In year five (2007), an independent study, supported jointly by the Government Entities and the Carpet Industry and selected by the CARE Executive Committee shall be commissioned to evaluate the progress and identify existing barriers toward meeting the Negotiated Outcomes Goals set forth in Section 2 of this Agreement and the Interim Management Goals. (See Appendix A.) A jointly supported and facilitated multi-stakeholder group composed of CARE members will be convened to review the report and develop implementation strategies. If necessary, the study shall conclude with recommendations for improving the recovery and integrated management of post-consumer carpet.
- (4) **2010 Negotiations.** In year eight (2010), CARE and other stakeholders shall create a multi-stakeholder process for developing recommendations and goals for the next ten-year period. Invited stakeholders shall include but not be limited to no less than five (5) states, ten (10) members of the Carpet Industry, the U.S. Environmental Protection Agency, and one (1) NGO.
- (5) **Final Report.** In 2012, CARE shall develop a final report detailing progress made in meeting the Negotiated Outcome Goals of the first ten-year planning horizon as set forth in Section 2 of this Agreement.

**b. Evaluation Criteria**

Progress toward the Negotiated Outcomes Goals shall be evaluated based upon:

- (1) A quantitative assessment of the amount of post-consumer carpet diverted to reuse, recycling, cement kilns, waste-to-energy, and incineration. This assessment should indicate progress toward meeting the Negotiated Outcomes Goals.
- (2) An assessment of the economic results/benefits of post-consumer carpet economic activity, such as the number of reuse and recycling establishments, employment, annual payroll, estimated receipts, and throughput of recyclable materials.
- (3) An assessment of the efforts that have been undertaken by each of the parties identified in Section 3 of this Agreement toward meeting the Negotiated Outcomes Goals.
- (4) A thorough assessment of the efforts and results to date, including recommendations for changes in strategies and additional efforts to reach Negotiated Outcomes Goals.
- (5) An assessment of planned efforts by each of the parties as identified in Section 3 of the Agreement for the upcoming year.
- (6) When feasible, an assessment will be performed of the resources saved as a result of diverting post-consumer carpet from landfills or incineration and a quantification of greenhouse gas and other environmental savings achieved by diverting recovered carpet from landfills.

**c. Evaluation Outcomes**

- (1) The signatories to this Agreement shall, after consideration of this information, make a subjective determination by weighting efforts, results, challenges, recommendations and other significant criteria to determine if any overall goals or strategies should be changed.
- (2) If, at the conclusion of the 2007 evaluation period, the signatories to this Agreement determine that CARE has been unable to achieve the interim goals as set forth in Appendix A of this Agreement, CRI (as the industry representative) shall direct CARE to develop a detailed analysis with specific recommendations on how to proceed with an alternative strategy.
- (3) CARE will then, to the best of its ability, implement these recommendations.

**5. Addition of Parties to the Agreement**

Parties may be added to this Agreement at any time pending approval by the CARE Executive Committee.

**6. Withdrawal of Parties to the Agreement**

Any signatory to this Agreement may withdraw at any time upon 60 days notice in writing to all other signatories to the Agreement. The reasons for withdrawal shall be given and offered in the spirit of advising other signatories on improving and enhancing the progress toward the Negotiated Outcomes Goals.

**7. Effective Date**

This Agreement shall be effective on January 1, 2002.

**8. Termination**

This Agreement will continue until superseded by another agreement, in keeping with the expectation under Evaluation and Performance Schedule to develop a process and goals for additional planning horizons. However, at the conclusion of the full evaluation and status determination by the signatories to the MOU in 2007, the government signatories shall determine whether the MOU shall remain as the preferred governmental strategy or if an alternative approach is necessary.

## Appendix A

### Summary of the Negotiated Outcomes for Carpet

Figures rounded to millions of pounds

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Total Discards	4,678	4,828	4,537	5,038	5,261	5,590	5,642	5,887	6,020	6,605	6,772
▶ Reuse	0			25			113		211		203–339
▶ Recycling	180			353			620		903		1,354–1,693
▶ WTE		48	45	50	53	56	56	59	60	66	68
▶ Cement Kilns	0			100			300		200		200
▶ Landfill				4,510			4,552		4,646		4,812
Recycling Rate	3.8%			7%			11%		15%		20–25%
Landfill Diversion Rate	3.8%			10%			19%		23%		27–34%

Figures rounded to millions of pounds

\*Data on carpet discards provided by the Carpet and Rug Institute