

**WRITTEN TESTIMONY BY
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New York City Packaging Reduction Oversight Hearing
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Committee on Sanitation and Solid Waste Management

Good afternoon Chairperson and other members of the Committee on Sanitation and Solid Waste Management. Thank you for the opportunity to provide you with our testimony on this timely issue.

My name is Annie White, and I am the Director of Global Green USA's New York Office and the Coalition for Resource Recovery. Started in 1994, Global Green, a 501(c)3 non-profit organization, is the U.S. arm of Green Cross International, which was founded by President Mikhail S. Gorbachev to foster a value shift toward a sustainable and secure future by reconnecting humanity with the environment. The organization works to create sustainable urban environments and combat global warming through a unique cross-cutting approach that merges innovative research, technical assistance, cutting-edge community based projects and targeted education and outreach.

In 2008, Global Green launched the Coalition for Resource Recovery (CoRR), a working group of companies, under the direction of Global Green USA, dedicated to combating climate change and generating business value by transforming waste into assets. CoRR conducts pilots to and associated research activities here in New York City to identify and accelerate the development of scalable, transferable waste diversion programs and technologies. Currently we have initiatives on wholesale transfer packaging paper foodservice packaging, and food waste recovery.

I am speaking with you today to share some of the pioneering recycling work that Global Green and members of its Coalition for Resource Recovery to facilitate the identification of packaging recycling solutions for New York City

The goal of our foodservice packaging recycling initiative is to identify a system by which paper foodservice packaging can be recycled into high-value material, thus spurring widespread recycling throughout the commercial foodservice sector. The targeted material stream is the 4.1 million tons of paper prepared food packaging that is landfilled in the United States each year. The collection and recycling of this material would decrease greenhouse gas emissions by ~15 million mtCO_{2e}, equivalent to removing 3 million passenger vehicles from the road.ⁱ

The Approach

To develop a recycling solution for the commercial sector, Global Green identified key conditions at each link of the supply chain that, if met, would result in cost-effective recycling solution:

- Enhanced recyclability and low contamination
 - In order to have increased value for recyclers and create no additional cost for retailers, the post-consumer material would need to have enhanced recyclability, and low contamination, making it marketable as a **high-value fiber grade**. Restaurants that recycle typically recycle cardboard boxes (OCC). With a recycling rate of 81.3%ⁱⁱ, it is the most recycled packaging material in the U.S., indicating favorable market conditions. Given this, Global Green set a goal that through pre-screening packaging for

recyclability, material redesign, and efforts to reduce contamination, post-consumer material would achieve a value greater than or equal to that of OCC.

- No additional truck trips
 - For the recycler not to make additional costly truck trips, the material must be picked up with an **existing recyclable stream**.
- No or minimal sorting
 - To keep costs low at the materials recovery facility (MRF), the aim is **no, or minimal, sorting**. To accomplish this, Global Green has proposed eliminating the plastic bag used to contain and transport paper recyclables with a recyclable paper bin liner. With this type of design there is no plastic bag contaminant, the bag and the recyclables it contains can be recycled as one unit without ever having to be opened.

Utilizing these as design criteria, Global Green uses a phased approach of successive pilot programs to achieve its ultimate goal -- demonstrating the concept at scale. Each pilot contains the following components.

Step 1 - Material Pre-Screen

Paper packaging included in pilot programs is evaluated using the Fibre Box Association's Wax Alternative protocol. The protocol tests for both repulpability and recyclability, comparing the packaging to old corrugated cardboard (OCC) and utilizing mill processes and technology readily available in the United States.ⁱⁱⁱ

Step 2 - In-Store Design

Bin design and in-store communications that encourage proper sorting by customers are developed with the goal of achieving less than 10% contamination.

Step 3 - Collect with OCC

The recyclables, ideally contained in a recyclable paper bin liner, are collected with the OCC.

Step 4 - Recycle Material & Conduct Tests

Mill and lab tests are conducted to replicate the results obtained during laboratory pre-screening in a mill setting, determining the most valuable end-products and informing future packaging designs. The material collected can be utilized for tests for a variety of end markets, including: medium, linerboard, deinked pulp, tissue, folding cartons, and other emerging processes.

The Results

While additional research is needed, the results of pilots to date indicate that:

The Majority of Paper Foodservice Packaging Contains Good Fiber

Western Michigan University has conducted pre-screening recyclability tests utilizing the Fibre Box Association's Wax Alternative protocol on Starbucks coffee cups and sleeves, and Pret A Manger's soup cup lids, and sandwich and salad containers. In all cases, the packaging passed the protocol with above an 85% fiber yield and notable strength improvements over OCC. Similar results were obtained with post-consumer material generated from Starbucks and held in plastic bags for 3 months prior to testing.

Customers Will Sort Packaging Material

Global Green has worked with CoRR members to conduct two eight-week, in-store tests: a 7-store recycling test with Starbucks in 2009 and a 3-store test with Pret A Manger in 2010-2011. For both tests the material purity was greater than 80% by weight and individual bags of recyclables with greater than 90% paper were observed. These results are promising and customer pre-sort results are expected to

improve over time due to customer learning and greater retail participation. The level of contamination that various mills can tolerate still needs to be better understood.

Making FDA-Compliant, Direct Food Contact Paper Packaging from Post-Consumer Paper Foodservice Packaging Is Possible

Global Green plans to further evaluate the potential impacts of microbial and fungal growth from food contamination in various mill settings. However, success in the field already is being realized by some mills. In the fall of 2010, Mississippi River Pulp, LLC, in partnership with International Paper and Starbucks, recycled post-consumer coffee cups into FDA-compliant de-inked pulp which was then utilized to make a 10% post-consumer cup manufactured by International Paper.^{iv} This demonstrates that it is possible to utilize post-consumer foodservice packaging which contains some level of food residuals, to make new packaging that is safe for direct food contact.

Next Steps

Due to these successful results, many paper mills have expressed interested in testing the viability of post-consumer paper foodservice packaging as a feedstock. To facilitate these tests, Global Green is calling for a 150 store paper foodservice packaging recycling pilot in New York City with the objective of generating enough material for six mill trials over the course of a year. In that time, Global Green's goal is to have developed redundant end-markets, ultimately achieving a self-sustaining, market-based solution.

The Case for Recyclable Coatings

While we believe the recycling test we have proposed will identify mill outlets for most conventional paper foodservice packaging, the game-changing opportunity is the redesign of paper foodservice packaging utilizing recyclable coatings. Coatings typically used on coffee cups and other packaging, such as polyethylene, are a contaminant to most paper mills. Recyclable coatings are on the market and in use, most notably in wholesale transfer packaging. If paper foodservice packaging could be designed using recyclable coatings, the sorting and mill testing we have planned to identify a recycling solution would not be needed as the packaging could be subsumed by a wide array of paper material streams, both commercial and residential. Undoubtedly, technical challenges related to performance and cost-effective manufacture of packaging utilizing recyclable coatings still need to be resolved. However, we hope our work will catalyze this change and we would be grateful for your thoughts on how policy could play a role in achieving this goal.

ⁱ US EPA. 2009. MSW Facts and Figures. Paper plates and cups, bags and sacks, and folding carton discards used to derive tons landfilled. EPA's WARM Tool and Greenhouse Gas Equivalencies Calculator used to derive potential greenhouse gas savings and equivalent cars off the road.

ⁱⁱ U.S. EPA. 2009 MSW Facts and Figures.

ⁱⁱⁱ A full description of the protocol and tests conducted can be found at:

<http://www.corrugated.org/upload/files/WaxAlternativesStandard%205-10%20then%2011-19-10.pdf>

^{iv} <http://www.msriver.com/RecyclingPilotRelease.pdf>;

<http://www.internationalpaper.com/documents/EN/Foodservice/Intro%20to%20Cup-to-Cup%20Recycling.pdf>