WI Recycling Action Project

Commercial Film Recycling

Demonstration Projects: *Facilitating Film Recovery From Mid-Sized Businesses*

One of the barriers to increased film recycling is that small or mid-sized businesses often have no access to film recycling programs. In selecting and then implementing demonstration projects the primary goals are:

- To demonstrate cost-effective, viable programs,
- To expand the access to film recycling to small and mid-sized companies, and
- Provide visibility to the marketplace as to the potential supply of scrap film in Wisconsin in order to attract market development.

Operation Green Fence, the Chinese policy that strictly enforces regulations on importing dirty scrap materials, is having a very big impact on the recycling industry. It is critical that demonstration projects be designed with quality control as the top priority. Since collection is not recycling, collection programs must be based on the specifications provided by the end markets. If the material is collected and recycled into a new product and the value of the material can offset the collection cost then we can define a program as successful.

All demonstration projects should include the following:

- A protocol for identifying the recyclability of the scrap film prior to collection
- A feedback mechanism to address sources of contamination
- Documentation of the amount of material collected

1. Distributor

Distributors provide a vast network in which products containing film are delivered to customers that often generate scrap film. To avoid inefficiencies such as recyclers providing pick up service for very small amounts of film, we want to encourage more distributors to backhaul scrap film from their customers. This system can create an additional service for distributors' customers and the material can be combined with film that's likely being generated at the distributor's warehouse or distribution center (DC) for greater return on investment in balers and other recycling equipment. There are two general categories: pick up of mixed postconsumer and postcommercial film and pick up of postcommercial film only. [1]

[1] Note that postconsumer refers to used plastics that have served their intended purpose; this includes both plastics that have been used by consumers and plastics that have been used by businesses. Commercial materials are usually recovered outside of curbside or drop off collection programs and include items such as pallet wrap and other commercial packaging. The EPA defines postconsumer as a material or finished product that has served its intended use and has been diverted or recovered from the waste destined for disposal, having completed its life as a consumer item. In contrast, post-industrial material is defined by the EPA as materials generated in manufacturing and converting processes, such as manufacturing scrap and trimmings/cuttings. These demonstrations projects are not targeting post-industrial film.

Option A: Distributor backhauls postcommercial film as well as postconsumer film from retailers/consumer facing customers (like dry cleaners).

Option A will generate a lower grade, mixed postcommercial and postconsumer stream, which will likely contain both HDPE and LDPE bags and wraps of mixed color. There may be minimal contamination from non-PE films and other waste or recyclables. The benefit of this option is backhauling from smaller retail stores means the store can recycle back-of-house film and in turn offer recycling services to their customers. The "hub" DC provides the network, or recycling access, to their "spokes," the wholesale customers.

Option B: Distributor backhauls from customers that generate only postcommercial film (e.g., pallet wrap).

Option B will most likely be only postcommercial or postindustrial, high grade films and wraps—most likely of a single type (clear HD or LD). It is very important that the customer only provides polyethylene film for the distributor to collect.

Potential Players: Expedix, Unisource, Qwik Trip, Central Grocers, Fabricare Distributors

Case Study: http://www.plasticfilmrecycling.org/successstory/nsfarrington.html

2. Industrial Park

In conjunction with the previous option, working with several mid-sized manufacturers or warehouses in an industrial park would likely generate film streams similar to option B above. We expect this option to be most successful in areas where several mid-sized manufacturers are clustered together, with many facilities generating film that can be consolidated for efficient shipment to market. The Fox River Valley could be a good area to focus efforts for this type of project.

There are several ways collection within an industrial park could work:

Option A: A hauler or recycler does a "milk run" collection to several participants to minimize freight costs while maximizing quantity. The hauler may also collect other commodities (e.g., OCC) at the same time as long as the commodity does not contaminate the film stream.

Option B: One facility becomes the consolidation point within the park to collect film from several neighbors, like the business-to-business program. This facility would need a baler and storage space.

Option C: A hauler or recycler would set up a trailer(s) for collecting loose film inside at several points around the park.

Potential Players: WI Film and Bag, Prime Plastic, Pioneer, other haulers/recyclers, major manufacturers in Fox River Valley.

3. Fiber Collector

Jim Birmingham has already contacted several fiber collectors who are interested in or have started programs to co-collect film along with recyclable fiber. It is for the WRAP group to decide if we should pursue a demonstration project that starts from scratch or use a program that is already in place for a case study instead. If we choose the latter then we can support the collector by providing signage, tip sheets, and produce a case study to spotlight their program. If we work with a fiber collector that already provides such service we could facilitate collection in a new area or from a new set of businesses.

Potential Players:

Case Study: http://www.plasticfilmrecycling.org/successstory/cagreybears.html

4. Shopping Mall

The FFRG has been working with a mall in Charlotte, NC to demonstrate film recycling program in a closed air, high-end mall environment. This project is still working through challenges but has generated useful tools (e.g., signage and a video). A similar mall demo project in the Milwaukee area could boost both the reach and recycling rate of the WRAP initiative. This would be a mixed commercial stream— most of the collected film would be generated in the back of the store, not brought in by customers.

Option A: Mall management takes responsibility for the collection and consolidation of material for efficient shipment to market. The mall would need a baler and forklift to handle 1000 lb bales or work with a handler to pick up smaller amounts of film and consolidate for market.

Option B: Mall management is engaged but an anchor store receives material from tenants and combines tenant material with material generated by anchor store. Mall management could either be involved enough to educate tenants and provide an employee to pick up material and deliver to anchor store or encourage tenants to deliver their own material to the anchor store.

Ideally tenants receive a collection container, bags for collection, signage, and tip sheets. Again, quality is key, and in the mall environment there is a higher chance of the film stream containing non-polyethylene film.

Another option may be a demonstration project within a strip mall in which a grocery chain serves as the anchor store. The mechanisms are similar to Option B. Grocery store collected film is often very good quality. It's important to monitor the small businesses' film stream prior to encouraging them to feed into a larger stores program to avoid any potential contamination from non-PE film or other contaminates.

Potential Players: Simon Property Group, shopping center with a major grocery chain

Case Study: http://www.plasticfilmrecycling.org/successstory/b2bpilot.html

Video: https://vimeo.com/69495743 PW: plastic film

5. Non-Retail Drop Off Recycling Center

This demo project would be a good way to provide information for populations that may have limited access to film recycling options, especially in rural areas of the state. A non-retail drop off site would be either a municipal convenience/waste collection center or hauler/recycler/MRF that is willing to accept film from the public or commercial sources. A drop off location of this sort would provide a recycling service that may be otherwise unavailable to significant parts of rural populations. The stream would be mixed retail (both HD and LDPE of varying colors and types).

Educational outreach would be essential to minimize contamination by non-PE films and other waste within collection bins. A depot specific poster is new available to show which types of film and bags could be accepted at these drop off locations. A baler would be preferable to collecting and dealing with loose film. Dry storage facilities would be necessary, too. Ideally the location is staffed for better quality control.

Potential Players: Dunn County (share information with Orange County, NC and Fort Collins, CO)

6. MRF

Film that is sorted at a MRF is increasingly difficult to market. While Moore Recycling Associates generally discourages the practice of film being handled at a MRF, there may be local markets and MRFs that can demonstrate success in collection, processing, and use of postconsumer resin into a new product. As long as the program can meet the specifications of the end market consistently and cost-effectively, there may be value in exploring ways to optimize film collection through the MRF. There has been a dramatic decline in demand for material that is processed at a MRF, so we want to proceed cautiously. We do not want to divert material from source separated collection programs to a MRF where processing requires more resources and results in a lower value product.

Tip sheets to encourage pick up service and the establishment of new collection programs is currently being created and will be available for use when demo projects begin.

SAMPLE Decision Analysis

	Expands Access	Potential to Significantly Increase Tonnage	Able to Track & Document	Already Have Willing Participants	Start does not require significant resources	Good Media Potential	TOTAL
Distributor	2	2	2	1	1	1	9
Industrial Park	1	2	1	0	0	1	5
Fiber Collector	2	2	1	2	1	1	9
Shopping Mall	1	1	2	0	0	2	6
Drop Off Recycling Center	1	1	2	2	2	1	9

0=no value 1=moderate value 2=high value

Coordination with the Film Work Group

The FFRG is producing a recycling toolkit, which will contain the following:

- List of Markets
- Tip Sheets
- Posters
- One Pager about the Film Initiative
- Model Bale Specifications (when available from Association of Postconsumer Plastic Recyclers)
- Article on Operation Green Fence

This information will also be available on the Wisconsin page of PlasticFilmRecycling.org

We need help with the following:

- Identifying industrial parks, distributors, shopping centers with anchor stores that may receive from neighboring businesses, fiber collectors, rural drop off recycling centers that may also receive material from commercial sector

- Initial outreach and engagement
- Coordination (asses streams of material, identify equipment needs, program design, train employees)
- Documentation
- Outreach to local communities

Currently the following efforts are underway:

- Jim Feeney has contacted 2 distributors
- Moore Recycling will contact Central Grocers and Fabricare distributors
- Jim Birmingham has some fiber collectors (need to download list from pfr.org)
- FFRG has a partnership with Simon Property Group (mall management group). Mall in Milwaukee
- Dunn County?