

RECYCLING

at the

Air & Waste Management Association's 102nd Annual Conference & Exhibition



AIR & WASTE MANAGEMENT
ASSOCIATION

SINCE 1907

Practices and Lessons Learned

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U.S. Environmental Protection Agency, Region 5



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Overview

The following is a summary of the recycling activities at the Air and Waste Management Association's 102nd Annual Conference & Exhibition held in Detroit, Michigan. The annual Air & Waste Management Association (A&WMA) conference focuses on the air pollution, hazardous and non-hazardous waste management industries. Approximately 150 exhibitors and 2500 participants attended 180 technical sessions, exhibits, and networking events held at Cobo Center in Detroit from June 16-19, 2009.

U.S. EPA Region 5 and the Michigan Department of Environmental Quality (Michigan DEQ) were tasked by the host committee to expand upon "greening" efforts for the event by developing and implementing a comprehensive waste reduction and recycling strategy. A detailed Recycling Plan (see Appendix A) was developed by a local 'Environmentally Friendly Committee' consisting of partners from the A&WMA, EPA Region 5, Michigan DEQ, City of Detroit, and independent consultants.

A priority was placed on reducing and recovering waste materials generated by exhibitors during move-in and move-out. Many exhibitors are environmentally-focused companies, and were already accustomed to waste reduction practices. Exhibitors were notified of waste reduction ideas (such as reducing incoming material packaging and handouts) and event recycling plans before the event via the exhibitor guidebook and the Website (<http://www.awma.org/ACE2009/>). Although waste reduction efforts are nearly impossible to quantify, it is anticipated that a significant amount of both waste and recyclables never made it to Cobo Center as a result of this outreach.

Over **2800 pounds of clean, marketable recyclables were generated, collected, and recycled** during the event, as detailed in Table 1.

Material	Recycled (lbs)
Paper	1050
Shrink Wrap	60
Plastic Bottles	40
Corrugated Cardboard	1020
Metal Cans and Banding	38
Aluminum Cans	119
Glass Bottles	500
Carpet Rolls	36
Total	2863

Table 1. Event recycling totals broken down by commodity.

Approximately **2042 pounds of waste were generated** and transported to the Greater Detroit Resource Recovery Authority waste-to-energy plant for incineration, as seen in Table 2. A detailed accounting of waste generation is in Appendix B.

Day	Waste Disposed (lbs)
June 15	349
June 16	532.5
June 17	636.5
June 18	524
Total	2042

Table 2. Event waste generation broken down by date.

As shown above, **the amount of recyclables recovered was greater than the amount of material disposed; the whole event had an overall recycling rate of 58%**. EPA's Waste Reduction Model (WARM) was used to calculate the total metric tons of carbon equivalent (MTCE) saved through recycling efforts. The analysis showed that approximately **one MTCE was saved by recycling** rather than combusting the materials collected. **One MTCE is equivalent to the CO₂ emissions from the consumption of 416 gallons of gasoline or the emissions generated by the electricity use of one home for four months** (detailed WARM evaluation results are in Appendix C).

It is hoped that in addition to sharing information about the recycling at the 2009 A&WMA Conference, that the successes, areas for improvement, and recommendations documented in this report will serve as a roadmap for future recycling activities at Cobo Center as well as at future A&WMA conferences.

I. PRE-EVENT PLANNING

A local 'Environmentally Friendly Committee' was designated to assist with recycling planning for the conference. Michigan DEQ, EPA Region 5, and Detroit Department of Environmental Affairs (Detroit DEA) dedicated staff to assist in planning recycling activities. Local consultants participating on the local Environmentally Friendly Committee included the Defour Group and Horizon Environmental Corporation. The show contractor was the George Fern Company, the catering contractor was Aramark, and the janitorial contractor was ABM. The contractor selected to provide recycling services during the event was NPR Recycling, Inc.

The following tasks were undertaken prior to the event:

1. The "Recycling at Brownfields 2008 – Practices and Lessons Learned" document was reviewed by the planning committee for ideas and a general roadmap on approaching the project. The Brownfields event took place at Cobo in the summer of 2008 and was held in the same exhibit and conference areas.
2. A kick-off meeting was held on November 13, 2008 at Cobo Center with A&WMA, Cobo Center management, Michigan DEQ, EPA Region 5, and local consultants.
3. A preliminary draft Recycling Plan was drafted by Michigan DEQ and circulated for review and comment by the planning committee. The plan was reviewed and accepted by A&WMA.
4. A second meeting was held at Cobo Hall on February 13, 2009 to discuss the Recycling Plan and confirm commitments of Cobo Hall management and participation of Aramark and ABM Janitorial Services.
5. Waste reduction ideas and recycling plans were communicated to exhibitors in the confirmation packets from A&WMA.
6. A staffing plan was developed and volunteers were sought to support implementation of the plan. An information sheet was developed for volunteers (see Attachment 1). Green recycling t-shirts were produced to clearly identify recycling staff to participants and exhibitors.
7. Recycling team representatives attended the pre-event walk-through on May 22 and the pre-show meeting on June 12 to brief key members from all participating organizations and contractors on the details and logistics of the recycling plan.
8. Supervisors, floor stewards, and individual staff of labor unions and contractors were contacted individually to answer questions, provide instructions, and confirm understanding of recycling procedures. In addition, recycling team representatives attended an event staff training on June 16 to provide an overview of recycling procedures.

II. SITE OPERATIONS

The following section provides a description of on-site activities during the various stages of the event. Site operations were primarily conducted by a recycling team, which consisted of three individuals and additional volunteers who assisted periodically throughout the event.



Figure 1. On-site recycling team (left to right): Jacob Hassan (EPA), Dave Lomas, (NTH Consultants), Treva Formby (Horizon Environmental), Jennifer Acevedo (MDEQ), Paul Ruesch (EPA).

A. Event Set-Up

Although the event was not scheduled to begin until June 16, show managers and contractors were on site beginning June 12 to set up in Macomb Hall. NPR Recycling dropped off a semi-truck trailer containing twenty 90-gallon Toter containers, 10 gaylord containers, and several pallets on the loading dock on June 12 (see Figure 2).

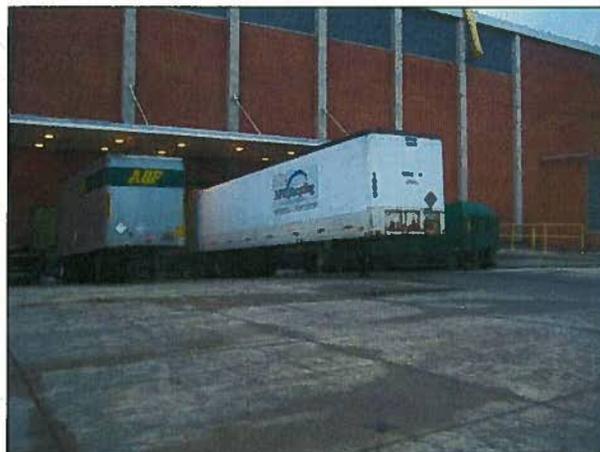


Figure 2. NPR Recycling, Inc. semi-trailer staged adjacent to trash compactor on loading dock.

Several containers for material generated by contractors such as shrink wrap, metal banding, and cardboard were distributed within the exhibit hall. Event contractors, decorators, janitorial staff, union laborers (carpenters, carpet layers, etc.), loading dock workers, and fork lift drivers were instructed on what materials were appropriate for placement into the recycling bins.



Figure 3. Pre-show setup and staging of Toters for exhibit hall distribution.

Event set-up continued on the morning of June 15. Volunteers canvassed the exhibit hall to finalize the location of the recycling stations and to add signage throughout the hall indicating the location of the recycling stations.

B. Exhibitor Move-In

The exhibit hall was opened to exhibitors on June 15. Recycling staff in green t-shirts walked the exhibit hall reminding exhibitors and contractors of recycling procedures and assisted with transporting materials to designated recycling centers. The centers were set up to collect cardboard, paper, metal banding and shrink wrap. Recycling staff carried box cutters to help break down boxes and assisted exhibitors with locating appropriate bins and collection areas. Janitorial staff utilized gondolas to transport cardboard to staging areas (see Figure 4).



Figure 4. Gaylord box set up for cardboard staging behind the exhibit hall floor showroom.

C. Exhibit Hall

During the exhibition, exhibitors were provided with small cardboard waste paper baskets with plastic liners at each booth. To encourage recycling, no garbage cans were placed in the aisles of the exhibit floor. Two recycling areas were established on the north side of Maccomb Hall right inside the two principal entrances to the exhibit area (see Figure 5). In addition, two additional recycling areas were set up on the east and west sides of the hall and were clearly marked with signs and posters (see Figure 6). Toter containers were used for the collection of paper, cardboard, and beverage containers. Garbage cans were staged alongside recycling containers to help minimize contamination in the recycling bins. Gaylord boxes were staged behind the exhibit area curtains and used as temporary storage to handle the large cardboard boxes (see Figure 7).



Figure 5. Recycling bins set up at the two main entrances to the exhibit hall.



Figure 6. Recycling areas along the east and west sides of the exhibit hall.



Figure 7. Gaylord box container staged to stage cardboard behind the exhibit hall area.

Volunteers walked the exhibit floor encouraging exhibitors and attendees to recycle. In addition, volunteers worked with janitors to periodically check the recycling areas, remove contaminants, and break down boxes. Full Gaylord boxes and Toter containers were transported to the recycling trailer on an as-needed basis. Janitorial crews used gondolas to collect and transport garbage to the compactor at the loading dock. All garbage was weighed and logged prior to disposal in the compactor (see Figure 8.). The weight, time, and waste origin (if possible) were noted on a log sheet (see Appendix B).

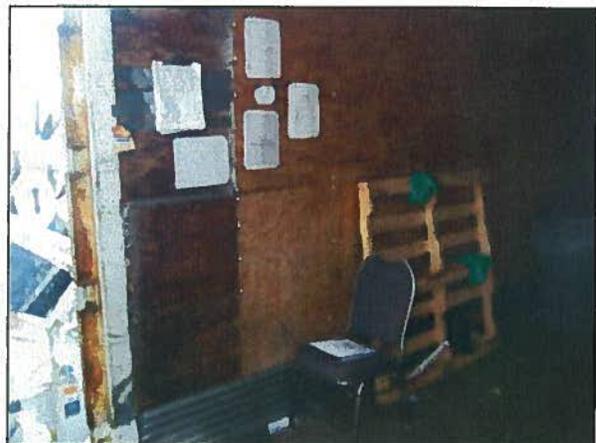
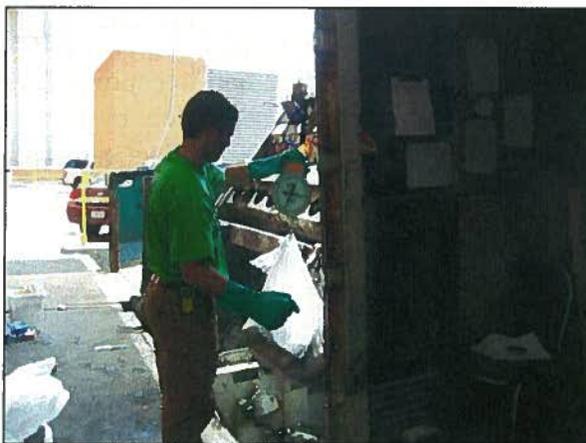


Figure 8. Scale for weighing trash and office area on loading dock with logs and event schedule.

D. Conference Center Concourses

Recycling bins for co-mingled beverage containers and paper were placed alongside garbage cans throughout the conference center lobby and concourses (see Figure 9). Janitorial crews used gondolas to collect and consolidate recyclables in a separate sweep and transported them to the recycling trailer. Because a separate crew and floor warden worked the concourses, separate instructions were provided by recycling staff.



Figure 9. Recycling stations on concourses.

E. Special Events / Receptions

A networking reception was held in Macomb Hall on June 16. Prior to the conference, ideas for waste reduction such as avoiding disposables, providing pitchers of water versus bottles, and using glassware and cloth napkins were provided to reception planners.

A recycling team representative worked with the event coordinator immediately prior to the event to discuss preferences for recycling bin placement, servicing, and signage. Based on these discussions, appropriate recycling containers for bottles and cans were placed near exits, garbage cans, and/or alongside bars. Most beverages were poured into cups and the containers were immediately placed into bags. At the conclusion of the events, recycling staff and Aramark janitorial personnel transported recyclables to the loading dock.

F. Concession Areas

Large recycling boxes were placed in the concession areas in the exhibition hall to capture beverage containers. The boxes were provided by Aramark and picked up separately by Recycleclean, a local recycling contractor. Since these containers (see Figure 10) collect cans and bottles on an ongoing basis at events at Cobo Center, data on the weight of the recyclables collected was estimated.



Figure 10. Recycling boxes in concession areas.

G. Main Kitchen

Recycling staff met with the catering manager and head chef to determine preferences for recycling containers and procedures on June 15, because much of the food was already in preparation for the event. Normal procedures involved kitchen staff filling a large gondola with garbage and transporting it to the loading dock trash compactor. This procedure was modified so that a large gondola dedicated for cardboard (see Figure 11) and a Toter for metal food cans were placed just outside the main kitchen rear entrance. Kitchen staff was asked to break down boxes prior to stacking them in the gondola to increase efficiency. If kitchen staff were too busy, volunteers assisted in breaking down boxes. In addition, food cans (for sauces, pickles, peppers, etc.) were rinsed prior to placement in a Toter to reduce contamination and odors. Recycling staff coordinated with kitchen staff to transport full gondolas and Toters to the recycling trailer on an as-needed basis. A secondary, smaller kitchen on the second floor was also checked for cardboard and metal containers.



Figure 11. Cardboard boxes prior to breakdown and recycling gondola outside the kitchen.

H. Registration Desk and Event Management Offices

Staff in the main registration area generated beverage containers, cardboard and paper. Given the proximity of the registration desk to the concourse recycling containers, registration staff was instructed to place all beverage containers into the concourse recycling bins (see Figure 12). Paper and cardboard boxes were stored behind the registration desk and collected end of each day by volunteers. These materials were broken down and transported to the loading dock for source separation.



Figure 12. Concourse recycling containers for beverage containers near registration area.

I. Exhibitor Move-Out and Event Breakdown

Toward the end of the exhibition, recycling staff visited exhibitors to remind them of recycling procedures during move-out. In addition, staff walked the exhibit hall instructing exhibitors and contractors to leave boxes of extra hand-out materials along aisles and assisted with transporting items to staging areas. This information was reiterated to exhibitors at the conference breakdown/move-out meeting held on June 18.

At the onset of exhibitor move-out, contractors concurrently broke down exhibit infrastructure. Toter containers were deployed onto the exhibit hall floor for collection of cardboard and paper (including extra brochures). Cleaning crews moved through the exhibit hall gathering waste and recyclables using large gondolas. When break down hours concluded, fork lift operators assisted recycling staff in transporting full Gaylord boxes to the recycling trailer (see Figure 13).

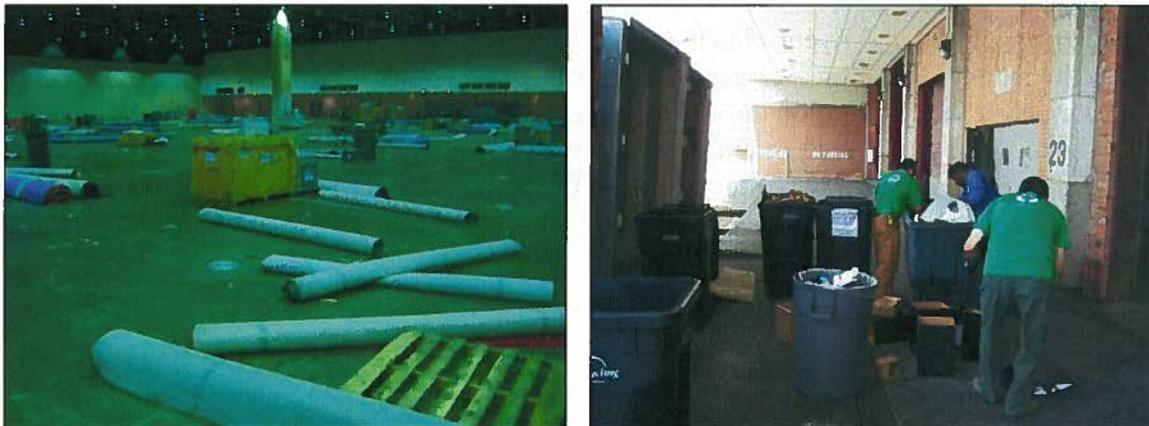


Figure 13. Event break down and sorting through containers to remove recyclable material.

At the end of the exhibitor move-out hours, recycling staff remained in the exhibit hall to collect recyclable materials such as shrink wrap and metal banding produced during the exhibitors repackaging process (see Figure 14).



Figure 14. Shrink wrap and metal banding produced during exhibitor break down.

The trailer was removed on the morning of June 19 and transported to NPR Recycling, Inc. in Romulus, Michigan. All Toters, Gaylord boxes, and loose materials were removed, weighed individually, and processed at the facility. A detailed report with a break down of material weights was provided to EPA on July 29 (see Attachment 2).

III. Outreach and Education Activities

The following outreach and education activities were conducted to increase awareness during the event.

Pre-Event

- Meetings and site visits were held with event planners, venue managers, and supporting contractors (catering, security, janitorial, etc) to develop and confirm recycling plans
- The conference Website, e-mails, and registration materials publicized greening activities
- Tip Sheets were emailed to exhibitors, presenters, and reception hosts with an overview of waste reduction strategies for packaging, handouts, and booth construction
- The host committee chairperson took a tour of the exhibit hall prior to opening and became familiar with the recycling operation in preparation for his opening remarks

Event

- The host committee chairperson mentioned the recycling effort during the plenary session
- Recycling staff wore green t-shirts (see Figure 15) and walked the exhibit hall to notify participants of recycling procedures and to answer questions



Figure 15. Volunteer wearing a green recycling t-shirt.

- Signage recognized recycling supporters and the recycling provider



Figure 16. Signage placed at all recycling areas to recognize supporters.

- Three exhibitors were formally recognized in the conference program as “Greenest Exhibitors” to highlight their sustainable practices (see Attachment 3).

IV. LESSONS LEARNED & RECOMMENDATIONS

During the event, recycling staff made notes and met periodically to discuss strategy and implementation issues. The following lessons learned and recommendations may be helpful in planning future events.

Pre-Event Planning

- Planning should begin 3-4 months prior to the conference with a site assessment and meeting with venue management to define roles and to clarify expectations.
- Waste reduction and recycling information should be included in preliminary marketing information sent to exhibitors.
- The 2009 event results should be promoted in 2010 along with a challenge to improve.
- It is critical to acknowledge and plan for the fact that recycling efforts will require janitorial staff do their job differently. For example, janitors may be required to make separate passes along aisles for waste and recyclables. Obtaining buy-in from managers and union stewards as well as providing adequate time for staff training is essential.
- A detailed understanding of all event-sponsored activities such as receptions, poster sessions, keynote or plenary sessions, office space, breakout session presentations, etc. is critical to ensure adequate planning for recycling container placement. It is important to know beginning and ending times, locations, and expected type and amount of recyclables that may be generated so that appropriate bins and volunteers can be scheduled and dispatched.
- In person follow-up with as many staff, supervisors, and managers involved in working the event (i.e., floor stewards, kitchen staff, trade workers, dock supervisors, janitors, security, etc.) before the event actually starts is critical. Once the event begins, most of these individuals cannot be distracted from their jobs. Also, it was necessary to brief each shift manager, as many times there is little communication between shifts, and the venue may change over as many as three times over a 24-hour period.
- Exhibit halls and receptions generate many different kinds of plastic and plastic-like materials such as shrink wrap, visqueen, vinyl table covers, tape, plastic string and banding, stirrers, cups, bottles, give-a-ways and their packaging, carpet tape and backing, peel off tape from nametags, bubble wrap, packing peanuts, protective plastic sheeting, and other packaging. It is important to determine which of these materials are acceptable to the recycling contractor before collecting it in containers.
- The greening and recycling efforts for the event should be publicized to the local media.

Site Operations

1) Event Set-up and Exhibitor Move-in

- Certain wastes being generated during this phase were not wanted by the recycler (i.e., carpet tape backing, bubble wrap, visqueen to protect carpet, vinyl table covering, non-metallic banding, and carpet cuttings). A significant quantity of this material was generated during exhibit hall set-up and was not recovered (see Figure 17).

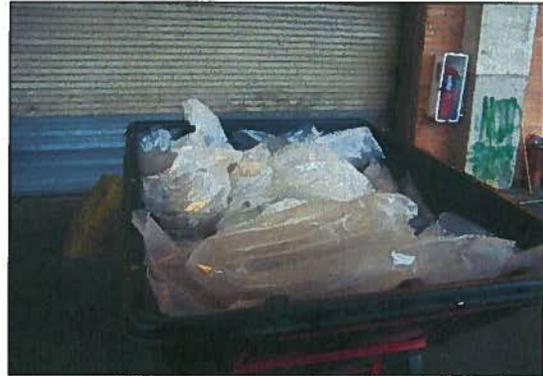


Figure 17. Carpet cuttings, tape backing, empty tape rolls and visqueen placed over carpet to protect it from fork lifts during set up was not recycled.

- Cardboard tubing was too big and unwieldy for Gaylord boxes or pallets, making it a challenge to manage and stage in the recycling trailer. Making plans to accommodate large items may be necessary. In the case of the tubing, rolls that were not reused were broken in half and stacked at the front of the trailer (see Figure 18).



Figure 18. Carpet rolls stacked at the head of the recycling trailer.

- All recycling staff should carry two-way radios, gloves, eye protection, and box cutters to assist exhibitors with recycling.
- Specially designed t-shirts with a recycling logo and the words “ASK ME” worked well to highlight people who could help answer recycling questions.
- Recycling and janitorial staff should only remove recyclable materials (i.e., cardboard, shrink wrap, pallets, etc) with the expressed approval of the exhibitor or installer. The exhibitor may wish to reuse this material for re-shipping or leave shrink wrapped pallets in place as this provides an extra measure of security for unattended equipment or furniture. In addition, exhibit workers may reuse carpet rolls, visqueen, pallets, or shrink wrap over the course of the show.
- Metal banding was handled with extreme care (staff used gloves and eye protection to avoid injury), folded, and placed into Toter containers along with scrap metal and food cans.
- The support of both floor managers for A&WMA and the George Fern Company were critical to ensure the laborers and contractors cooperated in recycling efforts.

2) Conference and Exposition

- Limited amounts of recyclable containers and paper were collected from bins on concourses. Because of this, janitorial staff emptied contents and consolidated recyclables into larger bags rather than pulling individual bags to conserve liners.
- Because Michigan is a deposit law state (carbonated beverage containers have a redeemable 10 cent deposit), special consideration was given to the collection of deposit containers (soda cans and beer bottles) and non-deposit containers (wine, juice and water bottles). The large containers deployed by Aramark were designed to prevent breakage and removal of containers deposited therein, as the deposit can only be collected if the container is not broken.
- Although recycling bins were clearly marked, many participants ignored signs taped to Toters and instead physically looked into the bins to see what materials were inside prior to choosing where to deposit their item. For this reason, Toter containers were left partially full so people could see what went in them (see Figure 20).
- Many exhibitors alternated or rotated new staff between set-up, exhibition, and break-down. Therefore, recycling staff continuously circulated reminding exhibitors of recycling procedures.
- A separate gondola for cardboard was placed outside the kitchen and kitchen staff was asked to break down boxes there as opposed to at the loading dock. This reduced the number of trips made to the loading dock and made off-loading of the cardboard from the gondolas into the trailer easier.



Figure 19. Gondola placed outside kitchen to collect cardboard boxes. Kitchen staff were asked to break down boxes to maximize space and minimize trips to the loading dock.

- The head chef in the kitchen was made aware of the recycling procedures and asked to instruct other chefs and food preparers to rinse cans. A volunteer was periodically dispatched to the kitchen area to assist with recycling so it did not conflict with normal kitchen operations.
- Catering staff moved very quickly to clean up reception areas after events. Temporary wait staff brought in for these events was instructed on recycling procedures quickly.
- Reception catering/bar stations were equipped with transparent plastic bags to collect the empty wine and beer bottles.
- An error was made in ordering juice for the catered breakfasts. This resulted in purchase of individual glass juice containers, which were emptied into large serving jugs, thus generating additional waste. All of these bottles were recovered for recycling.

- A detailed schedule of all receptions along with anticipated menus should be obtained prior to the event so that adequate planning to minimize waste and maximize recycling at these events can be conducted.
- It was important for attendees to see recycling staff and volunteers maintaining recycling centers and removing contamination from bins. Several comments were made by attendees about the high level of attention paid to recycling. Active participation by staff encouraged active participation by attendees.
- It is important to have clearly marked garbage cans near recycling bins, but it is critical that participants see the recycling bins first.
- Signage secured directly on the recycling bins is essential to reduce contamination. If contaminants such as coffee cups, stirrers, lids, or flatware begin to accumulate in bins, they serve as a magnet for additional undesirable materials. Recycling staff needs to be armed and ready with paper, tape and markers to quickly change signage as bins and Toters are relocated to different events and potential contaminants change.
- Recycling bins located on the exhibit hall floor were seeded with recyclables to assist patrons in determining the type of materials that is accepted in each bin (see Figure 20). This process was very successful in reducing contamination rates and improving the quality of material recovered.



Figure 20. Recycling toter seeded with beverage containers..

- Several environmentally friendly products were deployed at the reception and in concession areas (see Figure 21). One area of confusion for participants was as to whether these materials, such as biodegradable forks/knives/spoons, molded pulp paper food trays, or small plastic water cups were recyclable. This confusion lead to several commingled recycling containers with high levels of contamination (see Figure 22).



Figure 21. Biodegradable or compostable flatware, plates, trays and cups were used extensively during receptions and concessions



Figure 22. Large containers intended to collect beverage containers ended up full of molded pulp food trays. Patrons removed secured metal lids on these bins to place the trays inside.

- Black cardboard waste baskets given to each exhibitor were recyclable, but waste could have been further reduced by providing reusable cans.
- Dedicated volunteers should be assigned to the compactor or waste container to log waste generation data (e.g., number of bags, source, weight) and separate recyclable materials. This station should be covered during all three janitorial shifts, including late at night when sweeps are conducted.

3) Exhibitor Move-out and Event Breakdown

- Exhibit workers and fork lifts rapidly began to remove carpet, furniture, signage, partitions, and curtains immediately upon closure of the exhibit hall. Toters were moved to strategically located spots throughout the exhibit hall floor to aid the recycling collection process but were out of the way of the fork lifts and exhibit workers.



Figure 23. Boxes of undistributed brochures and promotional materials in the recycling trailer.

- A market for vinyl table covering material should be identified, as significant volume was generated and disposed.
- A briefing was provided by recycling staff during the “All Exhibitor Meeting” held on June 18 to explain recycling procedures to be employed during break-down and move out (see Figure 24).



Figure 24. Recycling logistics discussed at exhibitor meeting.

- More extensive badge collection receptacles should be placed at exits to both the exhibit hall and convention center. Only 150 badges were recovered.
- If possible, waste reduction impacts (i.e., not printing an attendee list, which saved thousands of pages of paper) should be estimated.

For Additional Information

For additional details or questions, please contact any of the individuals listed below:

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V. APPENDICES

Appendix	Description
A	Recycling Plan
B	Waste Generation and Recycling Figures
C	Greenhouse Gas Emission Analysis

VI. ATTACHMENTS

Attachment	Description
1	Volunteer Information Sheet
2	Scale Receiver Register – NPR Recycling, Inc.
3	Event Program – Environmental Commitment

Appendix A

Recycling Plan

RECYCLING PLAN

2009 Air & Waste Management Annual Conference & Expo

Cobo Center – Detroit, MI

Overview

The following is the recycling plan for the Air & Waste Management Association (AWMA) Annual Conference & Expo to be held at Cobo Center from June 16-19, 2009. Over 170 exhibitors and 2500 participants are expected at the event.

The plan was developed at a meeting held on November 13, 2008 in Detroit in cooperation with Cobo Center management, AWMA, and the local Environmentally Friendly Committee.

The recycling activities at the conference will focus on the three main stages of the event:

- Exhibitor Move-in - Monday, June 15, 8am-5pm
- Conference & Exhibition (including plenary, sessions, special events) - June 16-19
- Exhibitor Move-out – June 18, 12-7pm

Recycling activities will be coordinated and overseen by Cobo in coordination with ABM Janitorial Service, with AWMA event volunteers helping in the exhibitor area. See the Responsibility Matrix for specific roles.

Targeted Waste

Exhibit Hall

- cardboard (from boxes and cardboard rolls from carpet)
- shrink wrap
- metal banding

Kitchen

- cardboard

All areas

- beverage containers (metal and plastic)
- paper

Collection and Hauling System

Exhibitor Move-In – June 15

Cobo's standard recycling containers for commingled bottles/cans and paper will be placed throughout the exhibit hall alongside or nearby garbage cans by Cobo Center. In addition, AWMA has requested to collect cardboard, metal banding, and shrink wrap. Cobo will place additional containers in the exhibit hall for collection of these extra materials during exhibitor set-up. AWMA volunteers will make sure all additional non-standard containers have good signage and are clearly marked.

Exhibitors and contractors will be encouraged to break down materials and transport to designated collection areas. AWMA volunteers will help with this process. Depending on availability, ABM staff will assist with transport of materials to staging areas.

RECYCLING PLAN

2009 Air & Waste Management Annual Conference & Expo

Cobo Center – Detroit, MI

After set-up hours conclude, volunteers will coordinate with ABM crews to transport the full containers to the Nelson Paper Recycling semi trailer staged on the loading dock.

All garbage generated at the conference and expo will be weighed by Cobo staff on an ongoing basis at the compactors with a hanging scale and logged prior to placement in the compactor or garbage truck to facilitate calculation of a recycling rate for the overall conference and expo.

Conference and Exhibition – June 16-19

Exhibit Hall

Cobo's standard recycling containers for commingled bottles/cans and paper will be placed throughout the exhibit hall alongside or nearby garbage cans by Cobo Center. Recycling Centers will hold containers for AWMA's additional request of recycling (cardboard boxes, metal banding, shrink wrap). In addition, 2 garbage cans will be placed alongside the recycle bins to minimize contamination in the recycling stream. After exhibit hours conclude, or as cardboard containers become full, volunteers will coordinate with ABM crews to transport full containers to the recycling trailer staged on the loading dock and replenish the Recycling Centers with empty bins. All garbage generated during the event will be weighed and logged by Cobo staff prior to disposal.

Conference Center Concourses

Recycling containers for commingled bottles/cans and paper will be placed throughout the conference center concourses alongside or nearby garbage cans by Cobo Center. ABM crews will collect and consolidate paper and commingled bottles/cans and transport them to the recycling trailer on the loading dock.

Special Events / Receptions

Large recycling containers for commingled bottles/cans will be placed outside the room exits, nearby garbage cans and/or alongside cash bars by volunteers for Aramark. At the conclusion of the events, Aramark will transport commingled bottles/cans to the loading dock.

Concession Areas

Large recycling containers will be prominently placed in the concession areas within the exhibition hall to capture co-mingled bottles and cans from participants. These containers are owned by Aramark and will be picked up separately at the conclusion of the event by Recy-clean, a contractor to Aramark.

Exhibitor Move-out – June 18

Containers will be deployed onto the exhibit hall for collection of materials during breakdown. Exhibitors and contractors will be encouraged to break down materials and transport to designated collection areas. Depending on availability, AWMA volunteers or ABM staff will assist with transport of materials to staging areas.

RECYCLING PLAN

2009 Air & Waste Management Annual Conference & Expo

Cobo Center – Detroit, MI

After break down hours conclude, volunteers will coordinate with ABM crews to transport the full containers to the recycling trailer staged on the loading dock. Full containers will be transported from the Recycling Centers in the exhibit hall to the recycling trailer. All garbage generated during the event will be weighed and logged by Cobo staff prior to disposal.

Materials/Supplies

- box cutters
- gloves
- paper for bin signage
- tape
- markers
- waste data logs
- weight for measuring waste

Labor

Volunteers needed:

- 4-6 on Monday, June 15 – Exhibitor Move-in
- 2 on Tuesday and Wednesday, June 16-17 – Conference and Exhibition
- 4-6 on Thursday, June 18 – Exhibitor Move-out

Volunteers will receive training and will be assigned to a specific area of the event. Activities will include explaining recycling procedures, assisting exhibitors and visitors with locating appropriate bins and collection areas, hauling and posting signage on exhibitor recycling bins (cardboard, metal, shrink wrap), and notifying environmentally friendly committee members with any issues or problems as they arise.

Communications

During exhibitor check-in and move-out, volunteers will walk around the exhibit hall reminding exhibitors and contractors to follow recycling procedures and assist with transporting materials to designated recycling areas. Signage will be posted on containers clearly marking what materials are to be placed in them.

During the conference, the opening plenary speaker moderator will be prompted to announce the availability of recycling bins, the locations of the Recycling Centers in the exhibit hall, and the materials being collected (need to check with Louise). Moderators for technical sessions will also be prompted to remind participants to recycle. In addition, volunteers will be walking around the exhibit hall to notify attendees of recycling procedures and assist with locating bins.

At the conclusion of the conference, a summary report will be developed by the Environmentally Friendly Committee which will include a summary of recycling program implementation, the amount of recyclables recovered, and an overall recycling rate for the event.

Waste Generation
AWMA ACE 2009

Date	Time	Bags	Weight (lbs)	Notes
DAY 1				
15-Jun	11:45	4	34	kitchen
15-Jun	14:00	1	10	floor
15-Jun	14:30	7	40	concourse
15-Jun	15:15	3	155	kitchen
15-Jun	16:30	2	60	floor
15-Jun	17:00	1	30	floor
15-Jun	18:00	1	20	floor
		Total:	349	
DAY 2				
16-Jun	7:00	4	18.5	bathroom
16-Jun	9:00	1	3	floor
16-Jun	9:50	5	84.5	kitchen
16-Jun	11:30	1	13	floor
16-Jun	12:15	1	6.5	floor
16-Jun	13:30	2	26.5	concourse
16-Jun	13:45	6	70	floor
16-Jun	14:15	2	34	floor
16-Jun	14:30	6	28.5	concourse
16-Jun	16:00	5	14	concourse
16-Jun	16:30	6	138	kitchen, concourse, meeting rooms
16-Jun	17:10	4	15.5	floor
16-Jun	17:30	1	12	kitchen, concourse, meeting rooms
16-Jun	20:15	7	68.5	kitchen, concourse, meeting rooms, bathroom
		Total:	532.5	
DAY 3				
17-Jun	7:00	6	171	kitchen
17-Jun	9:15	1	2	kitchen
17-Jun	9:45	2	7	bathrooms
17-Jun	11:30	4	50	kitchen, floor
17-Jun	13:00	2	30.5	floor concessions
17-Jun	14:45	2	19.5	concourse
17-Jun	14:55	13	128	concourse, concessions
17-Jun	15:45	1	10	concessions
17-Jun	17:50	2	180	kitchen
17-Jun	20:00	7	38.5	floor, concession
		Total:	636.5	

DAY 4				
18-Jun	6:00	4	12	concourse, bathroom
18-Jun	8:15	6	204	floor, kitchen
18-Jun	10:00	2	16	kitchen
18-Jun	11:00	1	5.5	floor
18-Jun	11:30	1	14.5	kitchen upstairs
18-Jun	11:45	1	6.5	floor
18-Jun	12:30	2	16.5	concourse
18-Jun	13:00	2	25	floor
18-Jun	14:00	1	10	floor
18-Jun	14:30	7	70	kitchen, bathroom,
18-Jun	15:30	1	15	floor
18-Jun	16:00	1	20	floor
18-Jun	16:30	2	100	kitchen
18-Jun	18:00	1	9	sort waste
Total:			524	
TOTAL			2042	

Daily Recycling Generation - UBCs

AWMA 2009

Date	Weight (lbs)	Notes
DAY 1		
15-Jun	8	cans/bottles
	8 lbs	
DAY 2		
16-Jun	15	cans/bottles
	15 lbs	
DAY 3		
17-Jun	7	cans/bottles
17-Jun	25	cans/bottles
	32 lbs	
DAY 3		
18-Jun	16	cans/bottles
18-Jun	28	cans/bottles
18-Jun	20	cans/bottles
	64 lbs	
Total:	119	

Recycling Figures
AWMA ACE 2009

Material	Recycled (lbs)	Bags/Boxes	Toters	Pallets	Gaylords	Notes
Paper	1050			1	1	
Shrink Wrap	60		1		3	
Plastic Bottles	40		1		1	
Cardboard	1020		1		3	
Metal	38		1			banding, food cans
Aluminum Cans	119	7				
Glass	500		2			
Carpet Rolls	36					
Total:	2863	7	6	1	8	

Category	Sub-category	Value	Unit	Notes
Energy	Electricity	1000	kWh	
	Gas	500	therms	
	Oil	100	gallons	
	Coal	50	tons	
	Propane	200	gallons	
	Wood	100	tons	
	Other	50	tons	
	Water	1000	gallons	
	Refrigerant	100	lb	
	Other	50	lb	

Appendix C

WARM Greenhouse Gas Emission Analysis

GHG Emissions Analysis -- Summary Report

(Version 9.01, 3/09)

Analysis of GHG Emissions from Waste Management

GHG Emissions from Baseline Waste Management (MTCE): 0

Material	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Total MTCE
Aluminum Cans	0	0.06	0	N/A	0
Steel Cans	0	0.02	0	N/A	0
Glass	0	0.25	0	N/A	0
LDPE	0	0.03	0	N/A	0
PET	0	0.02	0	N/A	0
Corrugated Boxes	0	0.53	0	N/A	0
Mixed Paper (general)	0	0.53	0	N/A	0

GHG Emissions from Alternative Waste Management Scenario (MTCE): -1

Material	Tons Reduced	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Total MTCE
Aluminum Cans	0	0.06	0	0	N/A	0
Steel Cans	0	0.02	0	0	N/A	0
Glass	0	0.25	0	0	N/A	0
LDPE	0	0.03	0	0	N/A	0
PET	0	0.02	0	0	N/A	0
Corrugated Boxes	0	0.53	0	0	N/A	0
Mixed Paper (general)	N/A	0.53	0	0	N/A	-1

Total Change in GHG Emissions: -1 MTCE

Note: A negative value indicates an emission reduction; a positive value indicates an emission increase.

- For an explanation of the methodology used to develop emission factors, see EPA report: Greenhouse Gas Emissions from Management of Selected Materials in Municipal Solid Waste (EPA530-R-98-013) -- available on the Internet at <http://www.epa.gov/climatechange/wywd/waste/reports.html> Please note that some of the emission factors used to generate these results do not match those presented in the report due to recent additions and/or revisions.
- Emissions estimates provided by this model are intended to support voluntary GHG measurement and reporting initiatives.
- Total emissions estimates provided by this model may not sum due to independent rounding.

Back to WARM

View Emission Factors

Volunteer Information Sheet

Name	Address	City	State	Zip	Phone	Age	Gender	Religion	Marital Status	Education	Occupation	Skills	Availability

Attachment 1

Volunteer Information Sheet

Name	Address	City	State	Zip	Phone	Age	Gender	Religion	Marital Status	Education	Occupation	Skills	Availability

NOTE: This information is for internal use only. It is not to be distributed outside of the organization. The information provided here is for the purpose of identifying potential volunteers and is not to be used for any other purpose. The information provided here is for the purpose of identifying potential volunteers and is not to be used for any other purpose. The information provided here is for the purpose of identifying potential volunteers and is not to be used for any other purpose.



Thank you for volunteering to assist with recycling efforts for the 2009 Air and Waste Management Association Conference. We appreciate your help in keeping this meeting as environmentally friendly as possible!

PARKING

- Cheapest parking can be found on either the Cobo Roof or street level garage parking.

ATTIRE

- Please dress casual with comfortable pants and shoes. Volunteers will be walking a great deal. In case the exhibition hall is cool, bring a light sweater or jacket.

CHECK-IN

- When you arrive at Cobo Hall, enter through the main entrance and look for the registration tables near the Macomb exhibit hall. After you receive your badge, call either Paul or Jacob (numbers below) to check-in and receive instructions. Volunteers can assemble as early as 9:00 a.m. on Monday.

ACTIVITIES

- Volunteers will receive training, a safety briefing, and will be assigned to a specific area of the event.
- The recycling activities at the conference will focus on the three main stages of the event:
 - *Exhibitor Move-in - Monday, June 15, 8am-5pm*
 - *Conference & Exhibition (including plenary, session, special event) - June 16-18*
 - *Exhibitor Move-out - Thursday, June 18, 12 - 7 p.m.*
- Activities will include:
 - explaining recycling procedures to exhibitors and visitors
 - assisting exhibitors and visitors with locating appropriate bins and collection areas
 - hauling and posting signage on exhibitor recycling bins (cardboard, metal, shrink wrap)
 - assisting Cobo staff with weighing of garbage
 - kitchen prep assistance – breaking down cardboard boxes
 - Notifying environmentally friendly committee members with any issues or problems as they arise.

SAFETY

- Be mindful of heavy equipment moving through the aisles (i.e. fork lifts, trucks, etc.)
- Stay off loading docks unless you are assigned to help with recycled material loading.
- Please be respectful of conference exhibitors, attendees, and Cobo maintenance staff. If you have any questions, do not hesitate to contact Paul, Jacob, Jennifer or Jalonne.

CHECK-OUT

- At the end of your shift, please notify either Paul or Jacob so we can cover your area. At the end of your shift, please turn in your badge at the Registration table.

Volunteer Information

Organization	Contact	Cell Phone #	Email	Date	Time
Environmental Protection Agency	Paul Ruesch	312-617-7212	Ruesch.Paul@epa.gov	June 12, 2009	All day
				June 15, 2009	All day
				June 16, 2009	Morning to noon
				June 18, 2009	All day
Environmental Protection Agency	Jacob Hassan	309-824-4619	Hassan.Jacob@epamail.epa.gov	June 12, 2009	All day
				June 15, 2009	All day
				June 16, 2009	All day
				June 17, 2009	All day
Michigan Department of Environmental Quality	Jennifer Acevedo	773-636-3923	acevedoj@michigan.gov	June 12, 2009	All day
				June 15, 2009	All day
				June 16, 2009	10:30 am – noon, 2 – 5:30 pm
				June 18, 2009	All day
Horizon Environmental	Treva Fromby	586-438-2202	taformby@horizonenv.com	June 15, 2009	8:00 am – noon
				June 18, 2009	All day
Horizon Environmental	Phillis Rynne	248.977.0957	parynne@horizonenv.com	June 15, 2009	All day
				June 17, 2009	All day
Environmentally Friendly Committee / University of Michigan	Jalonne White-Newsome	734-223-5331	jalonne@umich.edu	June 12, 2009	All day (except for tree planting)
				Jun 15, 2009	All day
				June 17, 2009	All day until 3:00 pm
				June 19, 2009	All day
City of Detroit Department of Environmental Affairs	Robert Brown	313-350-1344	brownro@detroitmi.gov	June 17, 2009	10 a.m. – 2:00 p.m.
				June 18, 2009	1:00 p.m. – 4:00 p.m.
				June 19, 2009	10:00 a.m. – 2:00 p.m.

City of Detroit Department of Environmental Affairs	Crystal Gilbert	313-350-1834	gilbertc@detroitmi.gov	June 16, 2009 June 17, 2009 June 18, 2009	1:00 p.m. – 4:00 p.m. 1:00 p.m. – 4:00 p.m. 1:00 p.m. – 4:00 p.m.
City of Detroit Department of Environmental Affairs	William Hischke	313-350-1802	hischkew@detroitmi.gov	June 15, 2009 June 17, 2009 June 18, 2009	1:00 p.m. – 4:00 p.m. 10:00 a.m. – 2:00 p.m. 1:00 p.m. – 4:00 p.m.
City of Detroit Department of Environmental Affairs	Raymond Scott	313-350-1833	scottr@detroitmi.gov	June 15, 2009 June 16, 2009	8:00 a.m. – 12:00 noon 1:00 p.m. – 4:00 p.m.
City of Detroit Department of Environmental Affairs	LaReina Wheeler	313-350-1832	wheelerla@detroitmi.gov	June 15, 2009 June 17, 2009	8:00 a.m. – 12:00 noon 10:00 a.m. – 2:00 p.m.
City of Detroit Department of Environmental Affairs	Min Yang	313-350-1834	yangm@detroitmi.gov	June 16, 2009 June 17, 2009 June 19, 2009	1:00 p.m. – 4:00 p.m. 10:00 a.m. – 2:00 p.m. 10:00 a.m. – 2:00 p.m.

AWMA & Cobo Contact Information		
<u>Organization</u>	<u>Contact</u>	<u>Phone</u>
AWMA	Louise Wallach	412.904.6010
Aramark	Kathy Urban	
Cobo Hall	Denise Vaughn	313.877.8262
ABM Janitorial	Debra Gutierrez	313.718.0137
NPR Recycling	Patrick	734.721.0197
Cobo Hall	Anthony Carree	313.282.7525
Cobo Hall	Doug Robinson	

Scale Receiver Register

From Date: 06/19/2009 Thru Date: 06/19/2009
 From Account: COBO01 Thru Account: COBO01
 For Hold: All Records
 Receiver Type: All Receiver Sequence
 All Records

Receiver #	Recv Date	Contract # / Vendor Order #	Type	Invoice #	Inv Date	Terms Due Date	Trader Yard	Hold Batch
Account	Period	Bill Code / Shlp Code	Pay By	Deferred				
Control #	Name / Addr 1 / Addr 2 / City, St Zip / Country							
240562	06/19/2009		INV	240562	06/19/2009	15F	07/15/2009	PD
COBO01	2009/06		CSH	N	Time In: 13:58		Post Cl: Y	PC: Y FR: Y PH: Y AP: Y
240562		COBO01 COBO01			Time Out: 14:00		Carrier:	Inv Wgt: R
		Cobo Conference/Exhibition Ctr			Ref:		FOB:	Pay Wgt: R
		One Washington Blvd			Buy/Sell#:		Fr Rate:	Operator:
		Detroit MI 48226			Shlp Via:		Fr Code:	
					Bank: B		Fr Plan:	
					Check #:		Vend Id:	
					Tax Code:		Veh / Trlr: 481204	

Memo Print: N

Seq	Commodity	Yard	Description	Gross	Tare	Net	Price / UM	Amount
1	STRETCH	4	Stretch Film/Shrink Wrap	Recv: 60	0	60	0.00 / NT	0.00
			Post Type: Normal	Vend: 0	0	0	0.00 / NT	0.00
2	TRASHCHG	2	Glass Bottles	Recv: 500	0	500	0.00 / NT	0.00
			Post Type: Normal	Vend: 0	0	0	0.00 / NT	0.00
3	OCC	2	Old Corrugated Loose	Recv: 1,020	0	1,020	0.00 / NT	0.00
			Post Type: Normal	Vend: 0	0	0	0.00 / NT	0.00
4	SHTMET	1	SHEET METAL	Recv: 38	0	38	0.00 / LB	0.00
			Post Type: Normal	Vend: 0	0	0	0.00 / LB	0.00
Receiver Totals				Inventory Net:	1,618	Payment Net:	1,618	0.00

Receiver #	Recv Date	Contract # / Vendor Order #	Type	Invoice #	Inv Date	Terms Due Date	Trader Yard	Hold Batch
Account	Period	Bill Code / Shlp Code	Pay By	Deferred				
Control #	Name / Addr 1 / Addr 2 / City, St Zip / Country							
240562A	06/19/2009		INV	240562A	06/19/2009	15F	07/15/2009	PD
COBO01	2009/06		CSH	N	Time In: 12:39		Post Cl: Y	PC: Y FR: Y PH: Y AP: Y
240562A		COBO01 COBO01			Time Out: 12:42		Carrier:	Inv Wgt: R
		Cobo Conference/Exhibition Ctr			Ref:		FOB:	Pay Wgt: R
		One Washington Blvd			Buy/Sell#:		Fr Rate:	Operator:
		Detroit MI 48226			Shlp Via:		Fr Code:	
					Bank: B		Fr Plan:	
					Check #:		Vend Id:	
					Tax Code:		Veh / Trlr:	

Memo Print: N

Seq	Commodity	Yard	Description	Gross	Tare	Net	Price / UM	Amount
1	BOTTLES	4	Mixed Plastic Bottles	Recv: 40	0	40	0.00 / NT	0.00
			Post Type: Normal	Vend: 0	0	0	0.00 / NT	0.00
2	SOW	2	Sorted Office Waste	Recv: 310	0	310	0.00 / NT	0.00
			Post Type: Normal	Vend: 0	0	0	0.00 / NT	0.00
3	ROLLS	2	Carpet Rolls	Recv: 36	0	36	0.00 / NT	0.00
			Post Type: Normal	Vend: 0	0	0	0.00 / NT	0.00
Receiver Totals				Inventory Net:	386	Payment Net:	386	0.00

Receiver #	Recv Date	Contract # / Vendor Order #	Type	Invoice #	Inv Date	Terms Due Date	Trader Yard	Hold Batch
Account	Period	Bill Code / Shlp Code	Pay By	Deferred				
Control #	Name / Addr 1 / Addr 2 / City, St Zip / Country							
240562B	06/19/2009		INV	240562B	06/19/2009	15F	07/15/2009	PD
COBO01	2009/06		CSH	N	Time In: 07:55		Post Cl: N	PC: N FR: N PH: N AP: N
240562B		COBO01 COBO01			Time Out: 07:57		Carrier:	Inv Wgt: R
		Cobo Conference/Exhibition Ctr			Ref:		FOB:	Pay Wgt: R
		One Washington Blvd			Buy/Sell#:		Fr Rate:	Operator:
		Detroit MI 48226			Shlp Via:		Fr Code:	
					Bank: B		Fr Plan:	
					Check #:		Vend Id:	
					Tax Code:		Veh / Trlr:	

Memo Print: N

Seq	Commodity	Yard	Description	Gross	Tare	Net	Price / UM	Amount
1	SOW	2	Sorted Office Waste	Recv: 740	0	740	0.00 / NT	0.00
			Post Type: Normal	Vend: 0	0	0	0.00 / NT	0.00
Receiver Totals				Inventory Net:	740	Payment Net:	740	0.00

Invt Net	Pay Net	Tax Amt	Pay Amt
Grand Total : 2,744	2,744		0.00

AGRICULTURE COMMITMENT TO THE ENVIRONMENT

The agricultural industry is committed to the protection and enhancement of the environment. This commitment is reflected in the industry's policies and practices, which are designed to minimize the impact of agricultural activities on the environment and to promote sustainable agriculture.

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ENVIRONMENTAL POLICY STATEMENT

The industry is committed to the protection and enhancement of the environment. This commitment is reflected in the industry's policies and practices, which are designed to minimize the impact of agricultural activities on the environment and to promote sustainable agriculture.

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Attachment 3

Event Program – Environmental Commitment



AGRICULTURE COMMITMENT TO THE ENVIRONMENT

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A&WMA'S COMMITMENT TO THE ENVIRONMENT

A&WMA is known for providing industry-leading education and networking opportunities to environmental professionals from around the world. Understanding what it means for our members, conference attendees, exhibitors, and presenters working in the environmental field, we are consciously making efforts to reflect their commitment in our conference.

The A&WMA staff and Detroit local host committee volunteers have worked hard to put together an environmentally friendly program for ACE 2009. We are committed to making each year's annual conference greener than the last and for the first time this year, all of our conference promotional materials are printed on 100% recycled paper using soy-based ink.

Not only will we be donating to trees to be planted across the world, we will be planting trees locally as well. Sponsored by WE Energies, A&WMA and the Greening of Detroit will be planting five trees along the Detroit Riverwalk. We hope these trees will stand for generations and make a lasting impression on the landscape of the city.

The site of this year's annual conference, the Cobo Center, has taken great strides in recent years to integrate environmental considerations into their facility management. Recent updates include replacing 84,000 fluorescent lamps with energy efficient lighting, installing automated faucets in the restrooms and a lighting system that monitors natural light levels and cycles on/off as needed, using green cleaning products, and implementing a new recycling program.

During the conference, all food and beverage will be served with biodegradable cups, plates, and utensils, and all leftover food will be donated to local food banks.

In addition to Cobo's recycling program, this year's local host committee has also arranged for the recycling of shrink wrap, cardboard, and metal bands.

The headquarters hotel, the Detroit Marriott Renaissance, an Energy Star building, recently earned Green Lodging Michigan Leader certification from the Michigan Department of Energy, Labor & Economic Growth. The Marriott also has environmentally friendly features including an offsite recycling program, a towel/linen reuse program, low-flow showerheads and toilets, compact florescent light bulbs, LEDs in exit signs, and motion-controlled lighting.

CONGRATULATIONS TO OUR ACE 2009 GREENEST EXHIBITORS!

**CH2M Hill
ECO PHYSICS, INC.
State of Michigan – Department of Environmental Quality**

A&WMA and the Environmentally Friendly Meeting Committee would like recognize our 2009 Green Exhibitors for showing their commitment to the environment by employing sustainable practices.

A&WMA IS ASKING ACE 2009 ATTENDEES TO DONATE \$25 ON THEIR REGISTRATION FORM TO HELP US OFFSET THE CARBON EMISSIONS CAUSED BY THE CONFERENCE.

The money we raise will be donated to Tist, a nonprofit organization that plants trees and promotes sustainable agriculture in countries in Africa and Asia including Tanzania, Kenya, Uganda, and India.

2009 carbon offset program sponsored by: West Michigan Chapter/ Lake Michigan Section of A&WMA

